# WWF GEF
# Project Document
*Cover Page*

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| Project Title: | Financial tools for small scale fishers in Melanesia |
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| Lead Executing Agency: | Willis Towers Watson |

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADB | Asian Development Bank |
| ANZ | Australia and New Zealand Banking Group Limited |
| AWP&B | Annual Workplan And Budget |
| CBFM | Community-Based Fisheries Management |
| CBO | Community Based Organizations |
| CCA | Climate Change Adaptation |
| CCRIF | Caribbean Catastrophe Risk Insurance Facility |
| CF | Community Facilitator |
| CSO | Civil-Society Organization |
| DSP | Development Strategic Plan |
| FAO | UN Food and Agriculture Organization |
| FELA | Fiji Environmental Law Association |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gas |
| IFAD | Inshore Fish Attracting Devices |
| IFC | International Finance Corporation, World Bank Group |
| IP | Indigenous Peoples |
| IRGP | InsuResilience Global Partnership |
| IUCN | International Union for Conservation of Nature |
| KM | Knowledge Management |
| M&E | Monitoring and Evaluation |
| MCII | Munich Climate Insurance Initiative |
| MDTF | Multi-Donor Trust Fund |
| MPA | Marine Protected Area |
| MTDP | Medium-Term Development Plan |
| MVIL | Motor Vehicles Insurance Ltd. |
| NAP | National Action Plan |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NCCDMP | The National Climate Compatible Development Management Policy |
| NDC | Nationally Determined Contribution |
| NDP | National Development Plan |
| NFA | National Fisheries Authority |
| NGO | Non-Governmental Organization |
| NTIL | National Teachers Insurance Ltd. |
| PA | Protected Area |
| PCRAFI | Pacific Catastrophe Risk Assessment and Financing Initiative |
| PCRIC | Pacific Catastrophe Risk Insurance Company |
| PFIP | The Pacific Financial Inclusion Programme |
| PICCIF | Pacific Island Climate Change Insurance Facility |
| PICs | Pacific Island Countries |
| PML | PNG Microfinance Limited |
| PMU | Project Management Unit |
| PNG | Papua New Guinea |
| PPPs | Public-Private Partnerships |
| PPR | Project Progress Report |
| PSC | Project Steering Committee |
| RBF | Reserve Bank of Fiji |

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|---|---|
| RCP | Representative Concentration Pathway |
| SDG | Sustainable Development Goals |
| SEP | Stakeholder Engagement Plan |
| SIPP | Safeguards Integrated Policies and Procedures |
| SPC | Secretariat of The Pacific Community |
| SPCR | Strategic Program for Climate Resilience |
| SPS | Spawning Potential Survey |
| TBD | To Be Determined |
| ToC | Theory of Change |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNFCC | United Nations Framework Convention on Climate Change |
| US | United States |
| USD | United States Dollar |
| VNR | Voluntary National Review |
| VSLS | Village Savings and Loans Schemes |
| WB | World Bank |
| WDP | Ward Development Plans |
| WTW | Willis Towers Watson |
| WWF | World Wildlife Fund |

## EXECUTIVE SUMMARY

Climate threats in the small island nations of Fiji and Papua New Guinea (PNG) have increased and intensified in the past half a century, with major shock events including floods, coastal erosion, tropical cyclones, and marine heatwaves.[1] Climate-related natural catastrophe risk (such as from cyclones and extreme rainfall events), is only expected to intensify with global warming, while marine heatwaves (causing coral bleaching) and ocean acidification constitute an erosion of the ecosystem services on which coastal fishers rely. Such trends exacerbate the vulnerability of Melanesian coastal communities which face a range of sustainable development challenges varying from limited resources, high rates of population growth, remoteness, widespread poverty, and vulnerability to external shocks.

Without financial resilience to climate impacts, communities are often reliant on the overexploitation of marine resources, which offer a source of food security. Increased post-event anthropogenic (e.g. fishing) pressure impairs ecosystems' ability to recover, causing long-term damage to these assets and their productivity which underpins future livelihood activities. As climate change exacerbates the risk landscape, the lack of suitable financial products to manage climate risk poses a severe threat to natural ecosystems and long-term economic development and prosperity, as any development gains are threatened by increasing risks.

To build Fiji's and Papua New Guinea's adaptation and resilience against these climate-related threats, WWF and Willis Towers Watson (WTW) submitted a project under The Global Environment Facility's (GEF) Challenge Program for Adaptation Innovation, which supports scalable, bankable solutions to help communities that are most vulnerable to the negative impacts of climate change. The project, *Financial tools for small scale fishers in Melanesia,* was selected for funding in December 2019. This project is accessing Special Climate Change Fund (SCCF) funding under *Objective CCA-1: Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation.*

Under this project, WTW will - in consultation and collaboration with WWF Pacific, local communities, government, business, and the insurance sector - develop and deploy innovative *ex ante* risk financing products to improve community resilience to the adverse impacts of climate change, including major shock events. Ultimately, these financial products will identify cost-effective solutions to the financial resilience priorities identified with and by the communities, and support climate adaptation of these communities by rapidly dispersing post-event funds to respond to ecosystem impairment and smooth community and household needs after acute events.

The project is organized through three interconnected components:

1. **Component 1: Enabling environment for *ex ante* risk financing[2] to improve resilience for coastal communities in Tavua District and Qoliqoli Cokovata in Fiji and Madang Province in PNG.** WWF Pacific and WTW will aim to improve community-level climate risk awareness, understanding of climate risk management and risk financing mechanisms, and financial literacy, and in doing so, create an enabling environment for financial products to improve resilience for coastal communities in Fiji and PNG.

[1] (Beyer et al 2018, Hoegh-Guldberg et al 2018)

[2] *Ex ante* risk financing is funding that pre-arranged in anticipation of a future events and impacts. Therefore, as opposed to *ex post* risk financing—which is raised after a shock event—*ex ante* risk financing is arranged in advance of an impact. It may take the form of risk transfer or risk retention; the most common form of *ex ante* risk financing via risk transfer is insurance, while *ex ante* risk retention takes the form of contingency reserves / dedicated savings, pre-agreed budget re-allocation, and/or contingent credit arrangements.

2. **Component 2: Financial products and incentives for coastal communities**. The project will engage with local insurance markets and design tailored financial products and risk financing programs to address the climate risk to coastal communities and support the climate adaptation of these communities. In addition, the project will explore integrating incentives or payouts into the insurance products that encourage environmental stewardship to provide more resilient ecosystems on which communities rely.
3. **Component 3: Knowledge Management and Monitoring and Evaluation**. WTW will ensure effective project communications, knowledge management, and monitoring evaluation to both track project progress and support scaling up of results.

The project is focused on Fiji and Papua New Guinea, more specifically in coastal communities in the Tavua District and the Qoliqoli Cokovata (a coral reef Ramsar site that covers 4 Districts) in Fiji and Madang Province in PNG. These communities were selected for this project as they are exceptionally vulnerable to climate risk impacts. In these communities, climate impacts and ecosystem degradation contribute to a vicious cycle of increased coastal community vulnerability. Mounting climate and anthropogenic threats (e.g. increases in temperatures, sea level, storm intensity, turbidity of coastal waters, gradual ocean acidification, and unsustainable fishing practices) are damaging coastal ecosystems. Without methods of financial recovery from climate pressures, these communities are often reliant on the overexploitation of marine resources for livelihood security. The growing actuality of climate risk means informal risk management and traditional stewardship may no longer be sufficient to support rural livelihoods.

## SECTION 1: PROJECT BACKGROUND AND SITUATION ANALYSIS

### 1.1 Project Scope and Environmental Significance

Melanesia hosts high levels of marine biodiversity, including globally significant coral reefs, mangroves, seagrass, and pelagic habitats. In Madang Province, PNG, the marine ecosystem is known as one of the most biodiverse regions on the planet, boasting with 1,300 species of flora and fauna including dolphins, dugongs, and the threatened leatherback turtle. New species are still being discovered to science, with scientists having identified over 1,000 species in a 10-year span from 1998 alone.[3] Just under 4,000 kilometers south west of Madang lies Fiji, a cluster of islands spanning the antemeridian and renowned for its biodiversity-rich ecosystems. Along the northern coast of Fiji is the third longest reef system in the world, the Great Sea Reef, known locally as Cakaulevu. The Great Sea Reef hosts 40% of all the known marine flora and fauna in the Fiji Islands.[4] Coastal communities rely on ecosystem services associated with these reefs and coastal habitats. The UN Food and Agricultural Organization (FAO), for example, estimates that somewhere between 250,000 and 500,000 individuals participate in the coastal subsistence fishery in PNG,[5] and 50% of all rural households in Fiji are involved in some form of subsistence fishing.[6]

Climate threats in the small island nations of Fiji and PNG have increased and intensified in the past half a century, with major shock events including floods, coastal erosion, tropical cyclones, and marine heatwaves.[7] Climate-related natural catastrophe risk (such as from cyclones and extreme rainfall events)

[3] https://www.livescience.com/14801-1060-species-discovered-guinea-wwf.html
[4] https://www.wwfpacific.org/what_we_do/freshwater/the_great_sea_reef/
[5] http://www.fao.org/3/bo810e/bo810e.pdf
[6] http://www.fao.org/fishery/static/tenure-user-rights/root/volume7/C71.pdf
[7] Beyer et al 2018, Hoegh-Guldberg et al 2018

is only expected to intensify with global warming, while marine heatwaves (causing coral bleaching) and ocean acidification constitute an erosion of the ecosystem services on which coastal fishers rely. Such trends exacerbate the vulnerability of Melanesian coastal communities who face a range of sustainable development challenges from limited resources, high rates of population growth, remoteness, widespread poverty, and vulnerability to external shocks.

To address these climate-related threats, WWF and WTW submitted a project under The Global Environment Facility's (GEF) Challenge Program for Adaptation Innovation, which supports scalable, bankable solutions to help communities that are most vulnerable to the negative impacts of climate change under LDCF and SCCF financing. LCDF and SCCF are both funds managed by the Global Environment Facility (GEF) that aim to strengthen developing countries' resilience to climate change. SCCF specifically aims to build adaptation capacity for vulnerable people in the face of climate change, any other environmental benefits that are seen through this project are co-benefits.[8] The project, *Financial tools for small scale fishers in Melanesia,* was selected for funding in December 2019 and accesses the SCCF by supporting climate adaptation related to disaster risk management.

Under this project*,* WTW will - in consultation and collaboration with WWF Pacific, local communities, government, business, and the insurance sector - develop and deploy innovative *ex ante* risk financing products to improve community resilience to the adverse impacts of climate change, including major shock events. Ultimately, these financial products will identify cost-effective solutions to the financial resilience priorities identified with and by the communities, and support climate adaptation of these communities by rapidly dispersing post-event funds to respond to ecosystem impairment and smooth community and household needs after acute events.

The project is organized through three interconnected components:

1. **Component 1: Enabling environment for *ex ante* risk financing to improve resilience for coastal communities in Tavua District and Qoliqoli Cokovata in Fiji and Madang Province in PNG.** WWF Local offices and WTW will aim to improve community-level climate risk awareness, understanding of climate risk management and risk financing mechanisms, and financial literacy, and in doing so, create an environment for financial products to improve resilience for climate change vulnerable coastal communities in Fiji and PNG
2. **Component 2: Financial products and incentives for coastal communities**. The project will engage with local insurance markets and design tailored financial products and risk financing programs to address the climate risk to coastal fishing communities the climate adaptation of these communities. In addition, the project will explore integrating incentives or payouts into the insurance products that encourage environmental stewardship to provide more resilient ecosystems on which communities rely.
3. **Component 3: Knowledge Management and Monitoring and Evaluation**. The project will ensure effective project communications, knowledge management and monitoring evaluation to both track project progress and support scaling up of results.

The project is focused on Fiji and Papua New Guinea, more specifically in coastal communities in the Tavua District and the Qoliqoli Cokovata in Fiji, and the Madang Province in PNG.

[8] GEF Programming Strategy on Adaptation to Climate Change for the Least Developed Countries Fund and the Special Climate Change Fund

## 1.2 Adaptation Problem, Threats and Root Causes

Melanesia is facing a range of climate threats, including increasing air and sea temperatures, sea-level rise, flooding, variations in precipitation patterns, longer drought periods, coastal erosion, coral bleaching, and ocean acidification. See the climate risk screening tool in Appendix 5: Climate Risk Screening for more details.

Melanesia is also subject to climate shock events, such as cyclones and flooding. In Papua New Guinea, the northern provinces (including Madang - the focus of this project) are facing more frequent and intense rainfall, particularly during monsoon season. This has led to more frequent and more extreme flooding, impacting infrastructure such as roads and bridges and disrupting communication, transport, and economic and market accessibility.[9] PNG is also susceptible to tropical cyclones. In Fiji, tropical cyclones and flooding events have comprised 96% of natural disasters over the past 30 years.[10] Such events are expected to increase due to climate change, with sea level rise contributing to even greater flooding and storm surge impacts.

Natural disasters such as tropical cyclones and floods cause average annual direct losses of around US$284 million in the Pacific. With a combined population of fewer than 10 million people, annual losses are the highest in the world on a per-capita basis.[11] For example, Tropical Cyclone Winston, a category 5 storm, swept through Fiji in February 2016 and is estimated to have caused just under Fijian $1bn in losses and damages. [12] More recently, Cyclone Harold and Cyclone Yasa (both Category 5) impacted Fiji in 2020, and Cylone Ana in 2021, all causing substantial damage. Yasa, for example, impacted Vanua Levu (where the project focuses), resulting in flooding, buildings being destroyed, deaths and injuries, and hundreds of millions of dollars in damages.[13] Coastal communities are especially vulnerable. According to a World Bank report, climate-related shocks events push approximately 25,700 Fijians into poverty each year.[14]

In addition to threatening coastal communities and damaging property, climate shock events also cause extensive damage to ecosystems. Cyclones, for instance, damage coral reef structures and fish habitat. As the strength and integrity of these ecosystems are threatened, so is their ability to provide critical ecosystem services such as coastal protection and fisheries habitat. Indirectly, cyclones result in increased pressure on fish stock, as communities rely on fisheries for food security in the immediate aftermath of such events. At the same time, climate pressures are putting those same ecosystem services under increasing chronic stress. According to the IUCN, ocean warming affects fishery yields and the distribution of fish stocks. The health of marine species and humans will be affected by increasing

[9] Climate Risk, Vulnerability and Needs Assessment for Morobe, Madang, East Sepik, Northern And New Ireland Provinces Of Papua New Guinea. Ref. No. (PNG/AF/VNA/2014). Tom D'Haeyer, Julie Deleu, Edith Maroy, Danitza Salazar, Georg Petersen, Pendley, Michael Allen, Bonie Belonio.

[10] Republic of Fiji : second national communication to the United Nations Framework Convention on Climate Change. - Suva, Fiji : Ministry of Foreign Affairs, 2014.

[11] Brown, Daigneault, and Gawith, "Costs and Benefits Of Ecosystem-Based Adaptation For Flood Risk Reduction In Fiji", Agricultural & Applied Economics Association, Minneapolis, MN, July 27-29, 2014

[12]https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/fiji_lessons_learned_workshop_report_external.pdf

[13] https://www.theguardian.com/world/2020/dec/18/cyclone-yasa-two-die-in-fiji-as-storm-hits-second-largest-island

[14] http://documents1.worldbank.org/curated/en/163081509454340771/pdf/Climate-vulnerability-assessment-making-Fiji-climate-resilient.pdf http://documents1.worldbank.org/curated/en/163081509454340771/pdf/Climate-vulnerability-assessment-making-Fiji-climate-resilient.pdf

bacteria and virus outbreaks as pathogens spread more easily in warming waters, while travel and tourism will be impacted by frequent coral bleaching events.[15]

## 1.3 Barriers addressed by the project

A number of barriers need to be addressed to increase the resilience of coastal communities in PNG and Fiji. Currently, (1) financial products that support the financial resilience of coastal communities to climate change impacts do not exist. In addition, (2) local insurance markets currently do not have the conditions in place to provide the financial products. (3) There is a lack of financial literacy to understand the value of these financial tools, and therefore low demand and/or unwillingness to pay for climate risk insurance and other financial tools even if they already exist. (4) Premium financing (financing to cover insurance premiums) needs to be in place to ensure affordability of insurance products. Finally, (5) there are limited incentives for sustainable management of natural resources which must underpin increased coastal community resilience to climate change. Without the availability and uptake of financial tools for climate adaptation, coastal communities in PNG and Fiji will remain increasingly vulnerable to severe climate events and will continue to have limited financial capacity to absorb shock events. Each of these barriers is described further below:

1. There is a **lack of access to (and existence of) appropriate financial products for climate adaptation**, particularly regarding financial resilience to climate shock events, in Pacific coastal small-scale fishing communities.

   The financial products currently available covering climate risk in the Pacific are almost entirely insurance products for fixed assets (i.e. personal property such as fishing gear or boats) on an indemnity basis (i.e. paying out based on actual damage, often after a lengthy loss-adjustment process), which have little relevance to those who rely on subsistence activities and public goods for their livelihoods and wellbeing. Current insurance provision is almost exclusively focused on urban communities, which mainly consists of commercial property insurance, and can be costly or impossible to procure for many low-income households. Existing community risk sharing arrangements (e.g. the Wontok system, where the family and community provide for individuals) are suitable for individual resilience but not climate risk to the community as a whole. Climate risk is a covariant risk, meaning a single event impacts the entire community at the same time - the impact is highly concentrated in both space and time.

   The financial products currently available are either not accessible or do not appropriately build the adaptive capacity or resilience of Pacific small-scale fishing communities in the face of climate shocks. Without financial products that address these climate risks, small-scale fishing communities are even further unprepared to respond to extreme weather and environmental impacts. They are often left without the necessary liquidity or smoothed income to rebuild, replace lost livelihood activities interrupted by natural catastrophe events, and recover, drastically slowing down economic recovery. Without financial resilience to climate impacts, communities are often reliant on the overexploitation of marine resources, which offer a source of food security. Increased post-event anthropogenic (e.g. fishing) pressure impairs ecosystems' ability to recover, causing long-term damage to these assets and their productivity which underpins future livelihood activities. As climate change exacerbates the risk landscape, the lack of suitable climate financial products poses

[15] IUCN, 2016: D. Laffoley and J.M. Baxter, (eds), "Explaining ocean warming: Causes, scale, effects and consequences", Gland, Switzerland: IUCN (2016). 456 pp: http://dx.doi.org/10.2305/IUCN.CH.2016.08.en

a severe threat to natural ecosystems and long-term economic development and prosperity, as any development gains are threatened by increasing risks.

2. **The local insurance market conditions and the reliance on international risk markets** in Fiji and PNG represents another barrier to increased catastrophe insurance cover in the region. In order to underwrite insurance coverage for risks which are correlated across the local market area (which is especially true for climate-related risks in the Pacific), the insurance market requires access to sufficient risk capital to pay simultaneous claims and thereby underpin sustainability. Insurers are regulated to maintain access to capital at determined "solvency ratios" to ensure they can meet their obligations in full to all policyholders, even when those claims, in a particular year, far exceed the premium that has been collected in that year. This volatility means that—even when insurance is priced at actuarially sufficient rates—local markets need to access additional "capacity" (i.e. contingent capital) by transferring risk to international re/insurance and/or capital markets. However, the size of most Pacific insurance markets put them at a distinct disadvantage: small population size and low insurance penetration, even without being split across multiple primary insurers, provides too little risk volume to be commercially compelling to international risk markets unless their unintended costs, and uncertainty in underwriting methodologies (and, therefore, their "view of risk") is radically constrained. Therefore, local markets would benefit from technical assistance to package their catastrophe risk in the most efficient and analytically robust way possible in anticipation of international risk market requirements. This means two things: designing primary insurance products with analytically robust underwriting methodologies to tightly constrain the most favorable view of risk *while* expanding cover to vulnerable populations for whom there is likely very little reliable data to inform underwriting; and supporting the efficient aggregation of risk across the local market for re/insurance transactional efficiency.

   A main reason that insurance covering natural catastrophe risk (as opposed to individual risk) to small-scale fishing communities is not available in places like Fiji and PNG is the costs associated with the following:

   - *Risk data* – needed to price the cover *and* design it to minimize basis risk (if parametric). Traditional indemnity covers are priced using claims history and/or established risk models, which focus on risk to property. There is an additional upfront cost to perform risk analytics appropriate for pricing innovative catastrophe risk covers for exposures other than fixed assets and in areas of the world where risk models are not in demand and, therefore, do not already exist. Additionally, parametric covers must be carefully structured to minimize basis risk to the policy holders / beneficiaries.
   - *Product distribution* – how to distribute the product to people, issuing insurance policies in exchange for premiums.
   - *Claims management* – how to determine whether a covered event has occurred and what claim amount is due to each insured.
   - *Beneficiary management and pay-out distribution* – how to ensure insurance policy holders / beneficiaries' data is up to date and there is an appropriate process in place to distribute pay-outs to the beneficiaries of those policies in the event of a claim. For example, members in the target communities may not have established bank accounts or ways to access cash after a natural catastrophe event; for community-level covers, enrolled beneficiary information may change.
   - *National Regulatory regimes for insurance* – local markets are financially constrained in the amount of catastrophe risk they can underwrite, and they may need to buy reinsurance on

the international markets to manage their risk. Therefore, local markets are limited in their expansion into geographical areas of catastrophe risk by access to the international risk markets. Conversely, international risk markets are constrained in their ability to underwrite risk by local distribution, appropriate risk data, and scale, as well as local insurance regulation. If international risk markets are required to underwrite risk in local markets, there are administrative costs associated with 'fronting' agreements, which pass risk from local to international markets.

These upfront costs represent a barrier to establishing disaster risk insurance at the community and individual / household level.

3. There is a **lack of financial literacy** among members of coastal small-scale fishing communities.

   Many coastal communities are relative newcomers to cash-based economies and have limited skills or understanding of savings and insurance cultures. For example, PNG's non-life insurance penetration rate is 0.59% while Fiji's is 1.42%. For rural communities in Fiji and PNG, insurance coverage is extremely limited.

   A lack of financial literacy prevents these communities from understanding the value of insurance as a climate adaptation instrument and accessing these tools, leaving communities reliant on uncertain external financial flows to respond and recover from shock climate events. The lack of financial literacy is also a barrier to insurance companies distributing products to communities; the commercial opportunity related to insurance innovation in the Pacific is relatively small because distribution requires so much community engagement and training, and insurers are dependent on development actors to facilitate penetration.

   The establishment of a savings culture as part of financial literacy training is needed to provide additional resilience for coastal communities.

4. **Paying premiums is a challenge** in small-scale coastal communities, as households often do not have the fiscal space to prioritize insurance and financial planning for climate shock events. Even if the barriers listed above are removed and communities have (1) access to appropriate financial products, and (2) the financial literacy to understand their use and value, the capacity to pay or prioritize risk financing is limited.

   Therefore it is critical to recognize that Pacific communities are not solely responsible for climate risk, nor can they solely afford the premiums. Rather, paying premiums needs to be addressed by looking at public and private risk sharing to ensure the successful and affordable rollout of the financial products to these coastal communities.

5. **Incentives to drive positive behavior change towards sustainable resource management are few** in a poverty context where the motivation is high to overexploit resources for short-term food and livelihood security needs. There are currently few incentives, or financial resources, to adopt Community Based Fisheries Management that includes triggers for environmental events like bleaching or extreme weather events (for example, payment to sit out until a coral bleaching event has recovered, payment to clean up coral reefs impacted by cyclones).

## 1.4 National and Sectoral Context

**Climate and Disaster Risk Financing and Insurance**

Climate and disaster events have long-term macroeconomic impacts that affect government, enterprise, and household budgets, debt, incomes, and development pathways. A recent World Bank report finds that, when accounting for impacts on well-being, natural catastrophes cost the global economy USD 520 bn (or 60 percent more than usually reported) and force some 26 million people into poverty every year.[16]

There is a rapidly growing awareness of the urgent need for practical tools to manage the consequences of climate change and disaster risk, which has catapulted natural disaster risk management to the top of the global economic agenda. In 2018, the first ever G20 insurance forum was held in Bariloche, Argentina, and the Sustainable Development Goals (SDGs) recognize risk and the need for resilience at a macro level. The post-2015 development agenda has also embraced disaster risk management and financial protection as key elements for building resilience and securing development gains. For example:

- The Sendai Framework for Disaster Risk Reduction, adopted by UN Member States in 2015, guides global efforts to prevent new and reduce existing disaster risk through 2030 and highlights financial protection as a key element of resilience.
- The Addis Ababa Action Agenda, adopted in July 2015, lays out the level of ambition for financing the Sustainable Development Goals (SDGs), which were adopted in September 2015. Climate and disaster resilience are mainstreamed across the SDGs and their associated targets, ensuring that global development priorities over the next 15 years will integrate climate and disaster risk management considerations.
- The Paris Agreement of the UN-FCCC, which entered into force in October 2016, recognizes, in Article 8, the need for comprehensive risk assessment and management, including the use of insurance, to address loss and damage from climate change.
- The World Humanitarian Summit took place in May 2016, where a structured risk management approach including risk financing was discussed as an important tool in 'fixing' the global humanitarian system.
- The InsuResilience Global Partnership (IRGP) initiative has taken root, aimed at increasing climate risk insurance coverage by 500 million vulnerable people in the developing world by 2025.

Recognizing the benefits of a proactive approach to the management of the financial impacts of climate shock events, within a broader risk management framework, a growing number of governments, donors, development partners, and international financial institutions are supporting risk financing mechanisms. *Ex ante* risk financing mechanisms are financial tools arranged in advance of a shock event to help to mitigate the impacts of shocks and events on capital flows by rapidly dispersing predictable, pre-arranged funding. The most common form of *ex ante* risk financing via risk transfer is insurance, and contingency reserves and contingent credit lines are also key *ex ante* risk financing instruments; all three instruments (i.e. risk transfer, reserves, and contingent credit) can be combined—and supported by investments in risk reduction—in a structured risk management approach.

Initiatives to improve climate and disaster risk management and financing to protect the vulnerable against shock events have been supported globally. For example, since the launch of the Caribbean Catastrophe Risk Insurance Facility (now CCRIF SPC) in 2007, risk pools have been developed to

[16] https://openknowledge.worldbank.org/bitstream/handle/10986/22787/9781464806735.pdf?sequence=13&isAllowed=y

potentially cover more than 70 countries in Africa, the Caribbean & Central America and the Pacific, for multiple perils, including the Pacific Catastrophe Risk Insurance Company (PCRIC) in the Pacific region.

**Papua New Guinea and Fiji Insurance and Microfinance context**

In Fiji, the private insurance market comprises five non-life insurers (Sun Insurance, Tower, QBE (Fiji), New India, and Capital Insurance) and two specialist health insurers as well as two life insurers. In PNG (in 2018, the most recent data available), the private non-life insurance market consisted of 12 locally incorporated insurance companies (Capital General Insurance Company Ltd., Motor Vehicles Insurance Ltd. (MVIL), National Teachers Insurance Ltd. (NTIL), QBE Insurance (PNG) Ltd., Pacific MMI Insurance Ltd., Tower Insurance (PNG) Ltd., INSPAC (PNG) Ltd., Century Insurance (PNG) Ltd., Southern Cross Assurance Ltd., Trans Pacific Assurance Ltd., Alpha Insurance Ltd., and Western Pacific Insurance Ltd.). There is also one reinsurance company, Pacific Reinsurance Company Ltd.

Only a small number of finance companies or banks are regulated to provide microfinance in PNG. These providers are estimated to hold around 0.7% of all deposits by value in the financial sector. Around 280 businesses provide microfinance via deductions from salaries. Interest rates tend to range from 30-36% per year or 3.5% per fortnight. PNG Microfinance Limited (PML) was the first MFI in PNG. The Asian Development Bank is currently partnered with 11 financial institutions to expand the formal provision of microfinance. Lending in PNG is primarily serviced by unofficial *wanktoks*, which charge interest rates in excess of 20-50% per fortnight.

Microfinance in Fiji is provided by many different types of institutions, including insurance underwriters, in-house insurance schemes, money lenders, pawn shops, co-ops, MFIs, finance companies, mobile network operators, banks and credit unions.[17] The Reserve Bank of Fiji (RBF) is the leading bank in the region in developing microfinance and has developed guiding policies to establish a more inclusive financial sector and the use of more user-friendly financial products. [18]

**National Laws, Regulations and Policies**

One crucial legal act governs the insurance industry in Fiji. The Insurance Regulations Act was most recently updated in 1998 and ensures that insurance companies are acting fairly towards their clients and investing wisely to support their claims-paying capacity. In January of 2020, the Governor of the Reserve Bank of Fiji (which regulates the insurance industry in Fiji) stated that the Insurance Regulations Act was due to be updated soon.[19]

In Papua New Guinea, the Insurance Act of 1995 governs the industry. The act stipulates that all risks in PNG must be insured locally unless the commissioner grants an exception. Unfortunately, this stipulation of insuring locally is often ignored and as recently as 2016 the Office of the Insurance Commissioner issued a reminder to all conducting business of this regulation.[20]

## 1.5 Baseline Scenario

**Community Engagement, Coastal Resource Management, and Livelihood Improvement**

[17] https://www.griffith.edu.au/__data/assets/pdf_file/0021/219324/JPRWP3-web.pdf

[18] RBF Policy Statement 14: http://www.rbf.gov.fj/docs/Banking%20Supervision%20Policy%2014.pdf

[19] http://www.xinhuanet.com/english/2020-01/20/c_138720153.htm

[20] https://oxfordbusinessgroup.com/overview/steady-hands-while-challenging-sector-has-lot-offer-strong-players#:~:text=The%20Insurance%20Act%20of%201995%20stipulates%20that%20all%20risks%20in,licensed%20insurer%20outside%20the%20country.

In Papua New Guinea (PNG), WWF Pacific is currently working with 15 communities in 3 Districts (Madang, Sumkar, and Bogia) of Madang Province of Papua New Guinea. These 3 districts are organized into 12 wards, each of which has a Ward Plan. The Ward Plans include components on fisheries and the environment, which WWF Pacific supports.

In PNG, WWF Pacific utilizes a Community Facilitator (CF) model for community engagement. Female and male representatives selected by the community leaders are trained by WWF about once a month across program themes, including: community-based fisheries management; disaster risk reduction and climate change resilience; and, financial literacy, village savings and loans scheme (VSLS) administration, and small to medium enterprise development. Community facilitators are supported by peer-to-peer networks. The CF model promotes gender equity and program longevity within the communities by upskilling and implementation of projects in a situationally appropriate manner.

In Fiji, WWF Pacific works with 109 communities on coastal fisheries, including the project target communities in Tavua and Qoliqoli Cokovata. WWF Pacific works through the local government authorities, who appoint a community leader to lead and organize surveys and other activities for the community.

The project will utilize the CF model in both PNG and Fiji to engage communities and provide training related to risk management.

**Coastal Resource Management and Livelihoods**

The proposed project will build on ongoing initiatives for coastal resource management and livelihoods. The project will explore providing concessional access to insurance product as an incentive for adherence to existing coastal resource management initiatives (e.g. sustainable fisheries management plans, etc.).

In PNG, coastal fisheries management is overseen by the National Fisheries Authority (NFA) and the Conservation and Environment Protection Authority. There are 15 Marine Protected Areas (MPA) bordering the Madang Province. Four of these are formally registered as MPAs through government processes, led by the Conservation and Environment Protection Authority. The other 11 areas follow a customary tenure process known as *tambu*. Tambu are community established and community managed fisheries areas; they are managed by a fisheries committee.

WWF Pacific helps train community fishermen to undertake management plans designed for marine areas (formally designated and community managed) and build monitoring capacity.

Overall, WWF Pacific focuses on the following marine-management activities in Madang:

- Improving the livelihoods and food security of coastal fishing communities – this includes supporting alternative livelihood activities to reduce pressure on fisheries.
- Coastal Rehabilitation – in Madang, mangrove habitats are destroyed for timber and fuel, as well as to make room for infrastructure. WWF Pacific supports mangrove rehabilitation and planting to build resilience against climate impacts.
- Community Resilience to the adverse impacts of climate change.
- Incorporating community fisheries, climate adaptation and disaster risk reduction as part of safeguarding community income and livelihoods.

In addition to strengthening marine ecosystem management, WWF Pacific is planning to work with sugarcane producers on a certification option. Sugarcane production takes place alongside a main river, which captures pollutants that are then discharged into the sea (and is therefore important from a ridge-to-reef perspective). To help track progress, WWF Pacific undertakes a socioeconomic survey twice a year. In 2021-2022, WWF Pacific will also be undertaking a nation-wide gender assessment to ensure gender integration in all WWF Pacific activities. The project will build on these recommendations.

Finally, World Vision implements various development projects, including on health, education, water and sanitation, disaster risk reduction, climate change adaptation and mitigation, governance, gender, economic development and resilience livelihoods, including in the 15 communities. World Vision and WWF Pacific in Madang share knowledge on disaster risk reduction and climate change adaptation to better address impacts of climate change in the local communities in Madang Province.

In Fiji, indigenous Fijians maintain rights in designated local fishing grounds (known as Qoliqolis). Each qoliqoli is ideally expected to have a fisheries management plan, run by community committee in conjunction with the Ministry of Fisheries. Along with Ministry of Fisheries, WWF Pacific provides training and other support towards developing and implementing these management plans.

In addition to local fishing grounds, Fiji has a number of protected areas/tabu[21] areas. Qoliqoli Cokovata alone contains 18 marine protected areas/tabu area (fishing prohibited zone) and 4 mangrove reserves /tabu areas, each with a management plan and committee in place. Qoliqoli Cokovata is also a designated RAMSAR site.

There are several initiatives taking place in Fiji over the life of the project:

- The Macuata Provincial Natural Resource Management Plan (2014 - 2018), renewed in 2019, has been developed and endorsed by the provincial council. This plan lays out activities for several thematic areas, including biodiversity, leadership and governance, capacity building, sustainable financing and sustainable economic development.
- Under the project 'Living with Change: Resilient Mangroves, Fisheries and People of Fiji and PNG' ($1.1 million, 2018 – 2021), funded by BMZ and WWF-Germany[22] WWF Pacific is supporting Fijian communities (including Tavua and Qoliqoli Cokovata) to develop district-wide Community Development Plans for the years 2020-2040, aligned with the 20-year Fiji National Development Plan. The plans will include components on sustainable fishing and farming practices, accompanied by community capacity building to manage these resources. The project will also support the development disaster action plans to improve natural disaster responses.
- 'Creating a Community Driven Business Case for Sustainable Fisheries Management in Fiji's Domestic Fisheries Supply Chain and Markets,' funded by MFAT-New Zealand AID and executed by WWF Pacific, is a 2-year project (2021-2023) working to strengthen fisheries committees in Qoliqoli Cokovata and Nadogo districts, and connecting fishers to markets to reduce constrains around middlemen and create a financing mechanism to allow community committees to effectively resource and implement the qoliqoli management plans.

[*] a "tabu" is the temporary closure of a section of a community's fishing ground for 100 days

[22] https://wwf.panda.org/?323150/WWF-Pacific-announces-launch-of-Living-with-Change-Resilient-Mangroves-Fisheries--People-of-Fiji-and-PNG-Project

**Financial inclusion and Microfinance in Fiji and Papua New Guinea**

The project will build on ongoing initiatives and operations by WWF Pacific, government, and national financial institutions.

Papua New Guinea

- WWF Pacific works with women's groups in the fishery sector and promotes financial inclusion workshops. Workshops have led to numerous women saving their earnings and some starting new businesses.

- Village Saving and Loans Scheme (VSLS): WWF Pacific supports VSLS schemes, wherein members can take out "loans", up to their savings amount, but are bound by social and environmental loan conditions that preclude the use of the loan for activities that have social (buying alcohol or tobacco for resale) or environmental (buying a chain saw to cut mangroves) impacts. The savings groups are community run and have their own constitution, and are supported by the CF model. Community members can use their involvement in the VSLS to transition to a formal bank. WWF PNG has established and continues to support 32 savings groups in 15 communities across three of Madang's four coastal Districts. This provides a good basis in relation to financial literacy for roll out of financial products. WWF Pacific's focus over the coming years is on developing formal partnerships with banking institutions willing to adopt environmental and social loan conditions and to assist in the implementation of a roll out of a broader financial literacy program.[23] The financial tools in the proposed project will create additionality with the VSLS scheme as it will similarly enable women to improve on their financial literacy and access financial products. It will also build off the success and trust gained in the communities since the establishment of the VSLS schemes, and further the financial tools offered to community members.

Fiji

- The South Pacific Business Development is the largest Microfinance Institution in Fiji. It hosts a microfinance network that focuses specifically on women micro-entrepreneurs. The initiative continues to build economic stability for women in Fiji, with approximately 7,000 active loan clients and 9,000 savings accounts established.[24]

- To "contribute more effectively to inclusive, sustainable economic growth," the Reserve Bank of Fiji (RBF) developed a Financial Sector Development Plan (FSDP) 2016-2025 through a multi-stakeholder process. The FSDP includes recommendations to strengthen the microfinance sector. In addition, RBF formed a National Financial Inclusion Taskforce to develop a coordinated and collaborative approach to increasing financial inclusion.[25] The ministry of finance established the Microfinance Working Group to promote the objectives of the National Financial Inclusion Taskforce, and the group is now mandated to work on improving public and private sector participation, legal framework, infrastructure, good governance and skills transfer and training.[26] RBF releases an annual Financial Inclusion Report.

[23] This work is supported by the project '*Improving Livelihoods of Coastal Communities in Papua New Guinea through Sustainable Fisheries and Financial Inclusion*' (2019-2021, AUD 70,000)

[24] NCSMED- The National Centre for Small and Micro Enterprises Development (NCSMED) was originally set up in 2002 under the Small and Micro Enterprises (SMEs) Development Act 2002

[25] https://bfaglobal.com/wp-content/uploads/2020/01/Fiji-Financial-Inclusion-Regulatory-Impact-Assessment.pdf

[26] http://www.nfitfiji.com/micro-finance/microfinance-working-group/

- The Government of Fiji is currently actively engaged on the deployment of livelihood protection insurance at the sovereign level, which would be complemented by the proposed project for coastal communities. This will provide important baseline for the development and deployment of new products for additional segments of the population and will support the development of the long-term premium financing strategy.

The project will work with national active financial institutions to build their capacity to provide climate risk insurance products and ultimately distribute and administer the financial products in the deployment phase (see national context).

**Climate analytics and product design**

Sovereign level disaster risk financing - The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), supported by World Bank, has provided 15 Pacific Island Countries (PICs) – including Fiji and PNG - with disaster risk modeling and assessment tools to help them better understand, model, and assess their exposure to natural disasters. Probabilistic assessments of major perils, as well as raw geo-referenced data is available for these countries, including satellite imagery, topographic maps, bathymetric maps, surface geology maps, surface soil maps, land cover / land use maps, and historical catalogues of tropical cyclones. PCRAFI has also engaged the PICs in a dialogue on integrated financial solutions for the reduction of their financial vulnerability to natural disasters and to climate change.

Building on PCRAFI, the Pacific Catastrophe Risk Insurance Company (PCRIC) was established as a regional public-good risk pooling facility in the Pacific, which provides insurance coverage to PICs for Tropical Cyclone and Earthquake (including Tsunami). PCRIC's policies are offered on a parametric modelled loss basis, using AIR Worldwide's custom-built model. The insurance policies are currently issued against emergency response cost, which varies between 16% and 23% of modelled ground up property losses. PCRIC is currently exploring the development of additional insurance products for PICs. PCRIC is a potential public-private regional institution to underwrite this project's proposed insurance program and is already actively exploring such opportunities, supported by WTW as Reinsurance Broker and Strategic Advisor.

Climate resilience finance for development: Part of the Pacific Financial Inclusion Project, the Pacific Insurance and Climate Adaptation Programme (PICAP) is taking place 2021-2022 and will be delivering rain, wind, and drought analytics to support risk financing for the Pacific, including Fiji.

This project will be leveraging the risk modeling and analytics produced by WB and PFIP above (PCRAFI, PICAP), as well as the risk market through PCRIC.

Ocean Risk and Resilience Action Alliance (ORRAA) is a multisector alliance that supports climate-risk management projects across the Pacific region, as well as for small island states globally. Their work includes assessing coastal risks and developing innovative community-level risk financing. Currently, for example, ORRAA is supporting innovative financial products for fisherfolk. The project will leverage these novel insurance product designs and assess opportunities to replicate in Fiji and PNG.

Willis Towers Watson (WTW), a risk advisor and intermediary and the third largest insurance broker globally, provides a strong foundation of expertise and experience in developing insurance products, especially in the development space and in support of ecosystem resilience. The proposed project will leverage WTW's extensive expertise in disaster risk finance and insurance program design and implementation to yield community adaptation benefits.

WTW has a strong presence within the Pacific and are experts in the design and implementation of innovative regional, national, and provincial catastrophe risk financing solutions. This proposed project will build off WTW's work in Small Island Developing States and on ocean risk, coastal adaptation finance, and ecosystem resilience, and their work with both local Pacific insurance companies and the regional risk pool, PCRIC. WTW are linked into ongoing insurance initiatives across the Pacific region, which will be leveraged for the proposed project. The following baseline initiatives provide a foundation for this proposed project in Fiji and PNG:

- WTW led the insurance workstream of the Pacific Ocean Finance Programme. This consultancy was focused on the feasibility and design of insurance instruments to support Pacific Ocean health and thereby increase the resilience of Pacific communities. As part of this project, WTW conducted a Pacific-wide ocean risk assessment and feasibility analysis for the use of insurance instruments and developed 3 novel insurance concepts with initial product design in Fiji, Palau, and Vanuatu. These concepts include parametric insurance coverage for blue infrastructure (e.g. coral reefs and mangroves) from climate shock events, including acute threats (such as storms) and chronic threats (such as increasing ocean temperatures), and the design of a livelihood protection product to support fisherfolk resilience and incentivize improved fisheries management. The outcomes and lessons learned will be directly applicable to the development of financial adaptation strategies for coastal communities in Fiji and PNG.
- WTW is the sole broker, and project team members have been instrumental in the design, analytics, and placement, of both the existing regional catastrophe emergency response schemes for Small Island Developing States: CCRIF SPC in the Caribbean / Central America and PCRIC in the Pacific (where WTW also provides captive management and strategic advisory services). WTW's work with PCRIC is invaluable to the development and deployment of any insurance in Fiji and PNG as WTW is currently PCRIC's sole reinsurance broker, as well as captive manager and strategic advisor. As the regional risk pool, there is a huge potential that implementation of the Fiji and PNG programs can leverage PCRIC. Furthermore, WTW are consulting on the development and design (including the definition, modelling, and ultimately, the retrocession protection placement) of additional insurance products to compliment the current PCRIC offering, to provide additional coverage to Pacific countries. In particular, WTW consulted on the design of a fixed-benefit household insurance product for "bronze" category (compliant with certain minimum resilience features) households in Fiji. This engagement on additional potential products will be relevant to the proposed product development in Fiji and PNG, as they could benefit from leveraging PCRIC, as the internationally supported regional institution for the management of climate risk.
- WTW led on the delivery of a consultancy project for the IFC, developing a parametric insurance product providing livelihood protection for low-income households in Fiji, which included the engagement and management of a data and IT platform provider for the project, in addition to the modelling, structuring and preparation for the ultimate placement of risk transfer for the scheme. The risk analytics and modelling, the fundamental product design, and the local engagement through this project will be directly applicable to the Fiji product design and implementation and will provide a template for the PNG work.
- WTW is reinsurance broker to Tower Insurance (a key insurer in Fiji and PNG and active in 6 other Pacific island markets), where there is significant interest in opportunities at the micro-level, with a dependence on development actors to facilitate penetration.

- WTW is working globally to develop insurance models that directly support the resilience of coastal ecosystems—specifically coral reefs—and the coastal communities they support. Over the next few years, WTW is working with the Mesoamerican Reef Fund to design and implement a reef insurance program for the Mesoamerican Reef in Belize, Guatemala, Honduras, and Mexico. The "reef catastrophe model" and insurance program design process will provide a strong baseline and lessons learned for the ecosystem resilience components of this GEF project.

## 1.6 Coordination with other relevant GEF & non-GEF Initiatives

**Table 1** Coordination with GEF & non-GEF Initiatives

| GEFID | Country / Location | GEF /GCF Agency | Project Title | Project Summary |
|---|---|---|---|---|
| 10431 | GEF support: Indonesia, Philippines, Solomon Islands; non-GEF support: Fiji | ADB | Public-Private Partnerships (PPPs) for Coral Reef Insurance in Asia and the Pacific | The project aims to enable large-scale financing to increase the climate resilience of coastal businesses, communities and livelihoods in selected countries in the Asia Pacific region through an innovative private-public partnership model for coral reef insurance. There is opportunity to collaborate with ADB on the critical integration of community-level financial resilience and ecosystem resilience. ADB and WTW will ensure a coordinated communication approach to the Government of Fiji. |
| 10575 | Fiji, Indonesia, Madagascar, Philippines, Solomon Islands, Tanzania | WWF | Coral Reef Rescue: Resilient Coral Reefs, Resilient Communities | This project will work with government partners, academia and communities to support climate resilient coral reef ecosystems. There may be overlap with the communities engaged through the Melanesia project, and opportunities to coordinate work around coral reefs and insurance products. |
| 5216 | Fiji | UNDP | Implementing a Ridge to Reef approach to Preserve Ecosystem Services, Sequester Carbon, Improve Climate Resilience and Sustain Livelihoods in Fiji | This R2R approach in priority catchments will address key environmental issues in an integrated manner. It will bolster Fiji's national system of marine protected areas through an enhanced, representative and sustainable system of LMMA including greater protection of threatened marine species. Negative impacts of land-based activities on these MPAs will be reduced through development and implementation of integrated catchment management plans, including mangrove protection, the adoption of appropriate sustainable land use practices and riparian restoration in adjoining upstream watersheds as well as terrestrial PAs, restored and rehabilitated forests. This project is currently being implemented by the Department of Environment with national partners in five focal watersheds in Fiji. |
| NA | Fiji | WWF (GCF) | GCF Coral Reef Resiliency Program (CRRP) – | The WWF GCF CRRP – Fiji Country Project (Concept Note under review by the GCF Secretariat) will improve the management and ecosystem functioning of Fiji's Great Sea |

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| | | | Fiji Country Project | Reef (GSR) to enhance the resilience of coastal economies and communities to the current and future impacts of climate change. The Project will provide support to ensure the continued productivity of reef and connected coastal ecosystems by addressing climate-related threats as well as key stresses from land-based pollution and over-exploitation of reefs for their fisheries, tourism, and extraction of non-fish products. The project includes a suite of restoration and R2R planning and enforcement interventions to improve the management of the GSR along with the development of pipeline businesses to create new investment areas in "coral safe" blue and green enterprises. The project will include the development and scaling of successful climate insurance products to enhance the resilience of coastal ecosystems and communities. The important insurance market feasibility, financial literacy development, and insurance product development work to be executed by *the Financial tools for small scale fishers in Melanesia* GEF project will provide important results to inform the scaling and replication of those products and enabling conditions for other communities along the GSR. |
| 3954 | Papua New Guinea | UNDP | Community-Based Forest and Coastal Conservation and Resource Management in PNG | This project aims to establish a system of terrestrial and marine protection which builds upon existing community-based resource management structures in PNG. Project components include: Community Conservation Areas strengthened or established in West New Britain Province and the Owen Stanley Range; National and local policies and capacities to support community managed PAs; Conservation-compatible livelihood generation opportunities. |
| 5569 | Papua New Guinea | UNDP | Facilitating Renew able Energy & Ene rgy Efficiency Appl ications for Green house Gas Emissio n Reduction | Government and civil society have enhanced their capacity to implement biodiversity conservation, low carbon, and cli mate resilient development initiatives for environmental su stainability and improved community livelihoods to reduce the vulnerability of women, girls, men, and boys to disaster risks. |
| 5261 | Papua New Guinea | UNDP | Strengthening the Management Effectiveness of the National System of Protected Areas | This project works to strengthen national and local capacities to effectively manage the national system of protected areas, and address threats to biodiversity and ecosystem functions in these areas. |
| 10712 | Fiji, SI, Vanuatu | FAO | Enhancing water-food security and climate resilience in volcanic island | This project aims to reduce the pressures on over-exploited coastal aquifers to enhance water and food security and climate resilience. The project will be achieved by expanding and assessing the role of volcanic aquifers and |

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| | | | countries of the Pacific | introducing new groundwater governance frameworks for more sustainable management. |

## SECTION 2: PROJECT EXECUTION STRATEGY

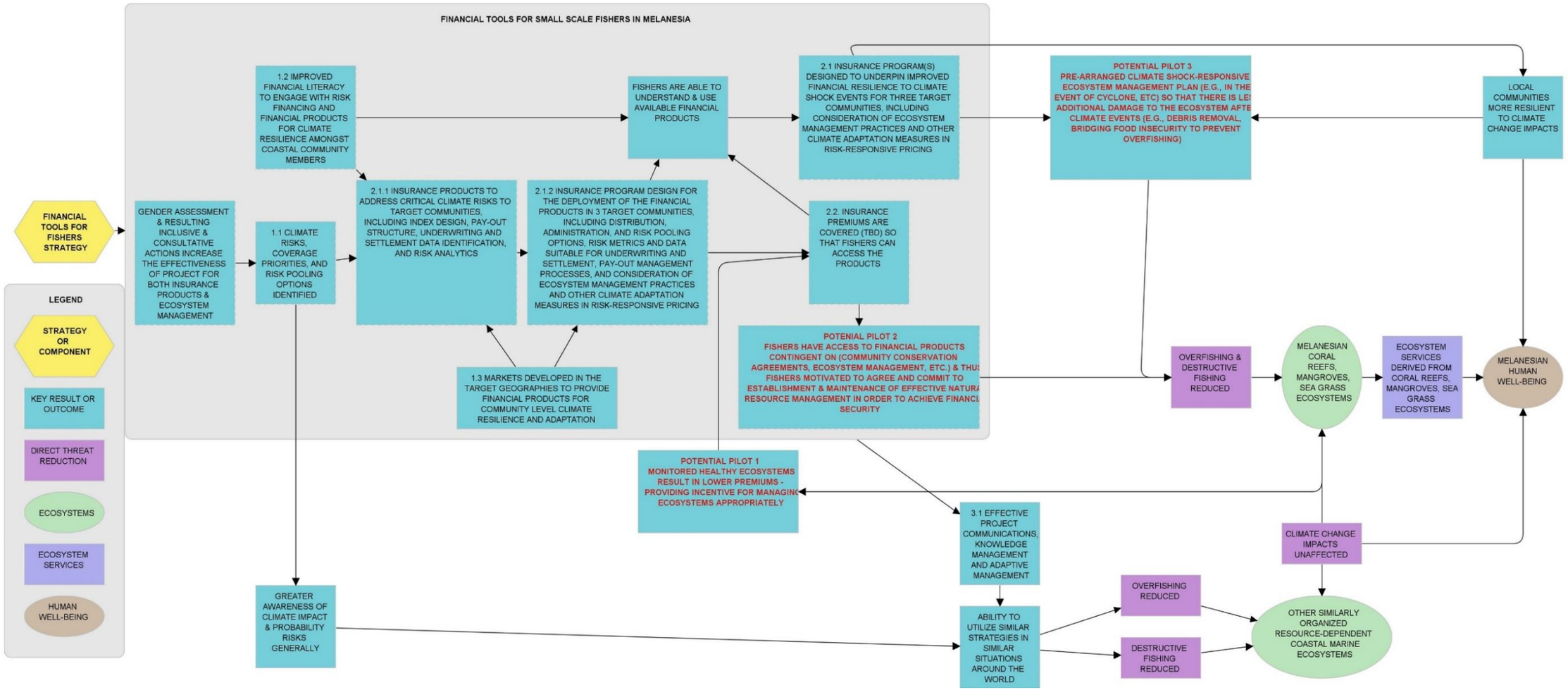
### 2.1 Project Objective and Theory of Change

The project theory of change is that:

- If the target communities and practitioners can collaboratively identify financial risk management solutions to impacts of climate shock events on livelihoods and natural resources;
- If risk financing products and program(s) can be developed to provide community-level coverage and rapidly dispersed post-event funds for climate adaptation; (e.g. parametric insurance which pays out to households and/or community organizations immediately after the occurrence of an extreme weather event);
- If financial literacy and risk awareness training can be offered to households to understand financial risk management and the proposed insurance products and program(s);
- If sustainable, long-term financing for developed insurance products is available (e.g. through pooling of risk and aggregation of government and/or other financial support);
- If incentives for community environmental stewardship can be linked to insurance products;
- Then communities will have reliable, pre-arranged access to post-event liquidity required to reduce short- and long-term impacts from major climate shock events by enabling and financing post-event response planning, preventing income shocks, and protecting development gains, and will also be incentivized to provide environmental stewardship for healthy ecosystems, which also contribute to community resilience.

See Figure 1 below for the Theory of Change / Results Chain diagram.

**Figure 1** Theory of Change for Financial Tools for Small Scale Fishers in Melanesia



## 2.2 Project Components and Expected Outcomes

The project objective is to improve the resilience of vulnerable coastal communities to the adverse impacts of climate change, including major shock events, in Fiji and PNG. The project will work in three communities: Tavua District and Macuata Qoliqoli Cokovata in Fiji, and Madang province in PNG.

**Fiji**: In Fiji, the Tavua District has a population of approximately 23,000, while the Macuata Qoliqoli Cokovata has a population of over 4,000 people. According to a WWF report (2011), 75% of these people rely on natural resources for income generation. Approximately 23% of the population of Fiji lives below the global poverty line.

According to Fiji's Climate Vulnerability Assessment, 25,700 people are pushed into poverty each year due to the impacts from tropical cyclones and floods. Climate change models suggest tropical cyclones in the country will intensify, and is expected to push 48,000 people into poverty over the next 100 years.[27]

Fiji is a good candidate in the Pacific to develop and deploy household / community-level insurance because it has a relatively developed insurance market in the region, and the government is already actively engaged in insurance initiatives, including livelihood protection.

**Papua New Guinea**: Coastal communities of Madang province experience frequent flooding during monsoon season, which they are relatively well adapted to cope with. However, extreme rainfall events, flash flooding, and landslides threaten lives and livelihoods, causing fatalities and widespread destruction.[28] A WWF Study (2017) found that fish catch in Madang is decreasing, and communities are looking beyond fisheries and at alternative income sources. While there is access to financial services in urban areas, rural areas face limited access to these same products and services. 60.2 percent of men and 81 percent of women reported owning no financial product in Madang.[29]

**Table 2** Project Components, Outcomes, and Outputs

| Project Objective: to improve the resilience of vulnerable coastal communities to the adverse impacts of climate change, including major shock events, in Fiji and PNG | | |
|---|---|---|
| **Project Components** | **Project Outcomes** | **Project Outputs** |
| Component 1: Enabling environment for *ex ante* risk financing to improve resilience for coastal communities in Tavua District and Qoliqoli Cokovata in | 1.1. Climate risks, coverage priorities, and risk pooling options identified<br><br>1.2. Improved financial literacy to engage with risk financing and financial products for climate | 1.1.1 Desktop risk assessment and community consultations, surveys, and workshops to identify and prioritize critical climate risks and impacts facing targeted communities and risk pooling options<br><br>1.2.1 Training manual (in local language(s), with visuals) for financial literacy for the products developed in 2.1.1 |

[27] http://documents1.worldbank.org/curated/en/163081509454340771/pdf/Climate-vulnerability-assessment-making-Fiji-climate-resilient.pdf

[28] https://reliefweb.int/report/papua-new-guinea/flooding-kills-28-people-papua-new-guineas-madang-province

[29] http://documents.worldbank.org/curated/en/704801471496337675/pdf/105185-REVISED-WP-P145131-PUBLIC.pdf

| | | |
|---|---|---|
| Fiji and Madang Province in PNG. | resilience amongst coastal community members<br><br>1.3 Markets [30] developed in the target geographies to provide insurance products for community level climate resilience and adaptation | 1.2.2 Community Facilitators trained to deliver 1.2.1 and to strengthen peer to peer financial literacy networks<br><br>1.2.3 Financial literacy training on risk financing and insurance products (developed in 2.1.1) in the targeted communities<br><br>1.3.1. Assessment of current status and enabling environment for local insurance marketplace<br><br>1.3.2. Insurance program roll-out plan for local insurers, including guidance on policy administration options and distribution mechanisms (for insurance program developed under Component 2)<br><br>1.3.3. Engagement and market information and analytics pack to facilitate retrocession protection for participating market(s), local and international. |
| Component 2: Financial products and incentives for coastal communities | 2.1 Insurance program(s) designed to underpin improved financial resilience to climate shock events for three target communities, including developing options for incentivizing sustainable ecosystem management practices and other climate adaptation measures in risk-responsive pricing<br><br>2.2. Premium financing identified and mobilization pursued | 2.1.1 Insurance products[31] to address critical climate risks to target communities, including index design, pay-out structure, underwriting and settlement data identification, and risk analytics<br><br>2.1.2. Insurance program design for the deployment of the financial products in 3 target communities, including distribution, administration, and risk pooling options, risk metrics and data suitable for underwriting and settlement, pay-out management processes, and options developed for incentivizing ecosystem management practices and other climate adaptation measures in risk-responsive pricing<br><br>2.2.1. Engagement and consultations to mobilize short-term premium support for “proof of concept” of insurance program(s) developed under 2.1.2, including extending coverage as an incentive for better ecosystem management practices<br><br>2.2.2. Design of premium aggregation and management mechanisms |

[30] Markets here refers to the insurance marketplace, encompassing insurance providers and purchasers.

[31] Examples: Index-based insurance, e.g. coverage of blue infrastructure, livelihood protection, and business interruption products, targeted at the individual, household, community, or cooperative level; microinsurance products directly linked to microfinance

| | | |
|---|---|---|
| | | 2.2.3. Strategy for sustainable, long-term *ex ante* financing of community climate risk |
| Component 3: KM and M&E | 3.1 Effective project communications, knowledge management and adaptive management | 3.1.1 KM products disseminated to share lessons and scale up similar private sector work internationally on financial products for climate resilience<br><br>3.1.2 M&E reports, used for adaptive project management and successful project delivery |

***Component 1: Enabling environment for ex ante risk financing to improve resilience for coastal communities in Tavua District and Qoliqoli Cokovata in Fiji and Madang Province in PNG.***

Component 1 is focused on building the enabling environment for the financial products developed under Component 2.

The insurance market is influenced by characteristics of two dynamics: the 'demand' for insurance and the 'supply' of insurance. The purchasers of insurance (e.g. governments, enterprises, and individuals) make up the demand side of the equation, while the sellers of insurance (e.g. local and international insurance providers) make up the supply. Especially in geographies that are particularly vulnerable to natural catastrophe events, and which have relatively small local insurance markets (on both the supply and demand sides), increasing community-level access to useful and affordable insurance cover requires tackling barriers on both sides of the market.

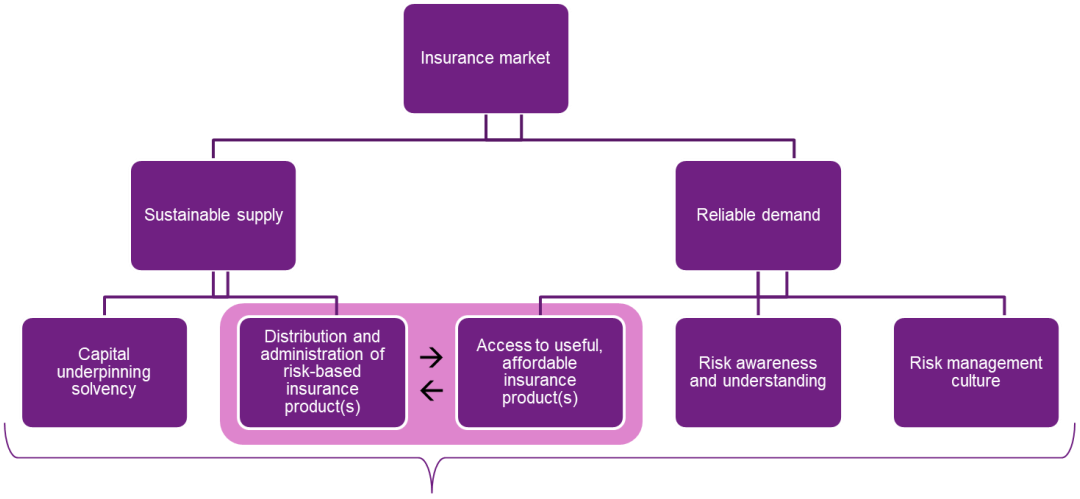



**Figure 2 Enabling conditions of insurance market supply and demand**

Figure 2 illustrates the key "enabling conditions" of insurance market supply and demand. Building favorable market conditions for sustainable, reliable, and inclusive insurance includes building the demand side of the insurance market, e.g. ensuring insurance products meet the needs of target communities, and that these communities will 'demand' the products. In the proposed project, this will be achieved by engaging communities throughout the insurance product design process to develop

affordable products the communities actually want and need (Outcome 1.1); building community-level financial literacy, and developing community members' understanding of climate risk and how structured risk management and *ex ante* risk financing in general—as well as the specific insurance products developed under Component 2—can meet their needs by increasing financial preparedness, security, and climate resilience (Outcome 1.2); and engaging with governments and development and humanitarian partners to provide financial support for premiums during a 'proof of concept' stage so that the proposed insurance program(s) are in place, giving communities direct experience of the value of risk management and insurance coverage, increasing long-term program take-up and sustainability (Component 2).

The supply side of the insurance market must also be developed for local insurance providers to "provide" the useful and affordable primary insurance products identified and developed for the benefit of climate-vulnerable communities, without jeopardizing the financial stability of the local insurance market. Providing the proposed insurance has two crucial components: distributing and administering the products and underwriting the risk. In addition to working with local insurance markets to develop an insurance program "roll-out plan" to distribute and administer the insurance products in the target communities, the project will engage with local and international risk markets, providing risk analytics to underpin actuarially sufficient insurance pricing and facilitate efficient local market access to reinsurance/ retrocession protection as required (Outcome 1.3).

**Outcome 1.1 Climate risks, coverage priorities, and risk pooling options identified**

Output 1.1.1 Desktop risk assessment and community consultations, surveys, and workshops to identify and prioritize critical climate risks and impacts facing targeted communities and risk pooling options

Under this Output, WTW will generate a climate risk assessment, and WTW, WWF, and local community facilitators will undertake community consultations to inform insurance product design and financial adaptation strategies. This will address two key questions, the answers to which will directly inform product design:

1. What are the main community-level climate hazard-related impacts (to assets, cashflows, and ecosystems), which rapidly dispersed post-event funding could address; and

2. What post-event actions could be implemented to smooth community-level impacts (e.g. climate-responsive ecosystem management and/or distribution of a community managed response fund).

Project activities to answer those questions will include:

- Community-specific vulnerability assessment: WWF Pacific will undertake a desktop assessment and surveys per target community to identify community socioeconomic information / livelihood profile, community and household-level risk management and risk-sharing arrangements, natural resource management, community governance and financial management, land use information, and household-level geolocation data.
- Planning and design of data collection: WTW will conduct a preliminary risk data assessment (Output 2.1), which, combined with the WWF-led community-specific vulnerability assessments, will feed into concrete planning to fill data gaps (on climate-related hazard, exposure, and asset / cashflow vulnerability) through engagement with communities, government, and private sector. WTW will conduct 3 field visits during the project execution, and a data collection

strategy will be coordinated between members of the WTW project team and the WWF project team.

- Community climate risk management priority assessments: utilizing the desktop assessments, in-depth surveys and workshops will be undertaken with communities, facilitated by local WWF staff and community facilitators, to identify and prioritize at-risk assets, cashflows, and ecosystems for protection, as well as viable product design characteristics and risk pooling options (i.e. appropriate community-level risk aggregators / policyholders, and provisions for the use of pay-outs). Surveys and workshops will be designed by WTW and implemented through community facilitator networks.
- Demand assessments / willingness to pay surveys: surveys will be deployed to determine community needs around insurance products (e.g. what communities want and need), and the amount they are willing and able to pay for such products. This will feed into Outcome 2.2, which will identify other sources of financing to cover the 'gap' between what communities can pay and the cost of cover. The surveys and assessments will be designed by WTW, translated and made culturally appropriate by WWF Pacific, and implemented through community facilitator networks.

The results above will be used under Outcome 1.2 to develop risk understanding and financial literacy, and under Component 2 to develop insurance products and program(s).

**Outcome 1.2 Improved financial literacy to engage with insurance products for climate resilience amongst vulnerable coastal community members**

Output 1.2.1 Training manual (in local language(s), with visuals) for risk understanding and financial literacy for the products developed in 2.1.1

WTW and WWF will develop a training manual and material to strengthen the understanding of (i) the climate impacts and viable product design characteristics and risk pooling options identified under Output 1.1.1. and (ii) how the financial products being developed and deployed under Component 2 will reduce the impacts of climate hazards at the community and/or household level. Training materials will be in local language and make use of visual aids and other locally appropriate methods. The project team will explore the integration of interactive methods, such as games (e.g. available from the Red Cross Red Crescent Climate Centre,[32] amongst others). The training manual will guide the community facilitators on how to train community members to implement the best practice guide.

Output 1.2.2 Community Facilitators trained to deliver 1.2.1 and to strengthen peer to peer financial literacy networks

Community facilitators already identified by local communities and working with local government and WWF (see baseline) will be trained based on the materials developed in 1.2.1. WTW and WWF will host a "training-the-trainers" workshop for community facilitators and will provide technical and communication material for the community workshops. Community facilitators play a critical role in the on-going sustainability of this project. Therefore, their capacity and ability to support the community is key.

[32] https://climatecentre.org/resources-games/games

Output 1.2.3 Financial literacy training on risk financing and insurance products (developed in 2.1.1) in the targeted communities

With the support of WWF and WTW, the community facilitators will conduct community workshops and training in the selected communities to strengthen the understanding of risk management and insurance products to be developed under Component 2. The GEF finances will fund the costs of travel and workshops associated with this targeted training as well as the costs of the community facilitators.

**Outcome 1.3 Markets developed in the target geographies to provide insurance products for community-level climate resilience and adaptation**

Output 1.3.1. Assessment of current status and enabling environment for local insurance marketplace

WTW will work with the local insurance marketplace in Fiji and PNG, which will be responsible for providing the insurance products to communities. The local insurance marketplace includes the insurance associations of Fiji (the Insurance Council of Fiji) and PNG (the Papua New Guinea Insurance Council), as well as local companies: QBE Insurance, Capital Insurance, Tower Insurance, Sun Insurance, New India, FijiCare, Alpha Insurance, Southern Cross Assurance, National Teachers Insurance, Pacific MMI Insurance, INSPAC, Century Insurance, Trans Pacific Assurance, Western Pacific Insurance, PHA Health Assurance Co, Pacific Reinsurance Company Ltd.

Activities include an initial desktop assessment of the insurance market (identifying potential insurers and key market conditions and dynamics), consultations with local insurers (listed above), and a desktop review of the enabling environment for insurance products (including the identification of issues that could impact the implementation of the proposed products). These assessments will help inform the roll-out plan for Output 1.3.2.

Output 1.3.2. Insurance program roll-out plan for local insurers, including guidance on policy administration options and distribution mechanisms (for insurance program developed under Component 2)

WTW will develop an implementation strategy and roadmap (i.e. roll-out plan) for insurance companies to “roll out” the proposed insurance program(s) developed under Component 2, and which will supply the proposed insurance products developed under Component 2.

Development will be done through insurance industry round table(s), meetings, and desk assessment. This will include:

- Engagement with local insurers on product administration options and product distribution mechanisms (based on program design in Component 2), including the consideration of innovations in digital platforms and payment tools and channels (e.g. mobile phone and internet apps); and
- Finalization of the program (defined in Component 2) roll-out strategy and plan with local insurance market(s), including primary insurance policy terms and distribution mechanisms.

Output 1.3.3. Engagement and market information and analytics pack to facilitate reinsurance / retrocession protection for participating market(s), local and international

Another critical enabling component of an insurance program for catastrophe risk is access to sufficient risk capital for insurers to underwrite the risk without jeopardizing their sustainability / financial stability. For this, local insurance markets will likely need to secure access to international risk markets. Under this Output, WTW will supply risk analytics for the proposed insurance program(s) (developed in Component 2) in the format required to facilitate efficient local market access to reinsurance / retrocession protection (in the international markets) as required. WTW will undertake the following activities:

- Consultations with international re/insurers to understand market appetite and capacity to support underwriting;
- Probabilistic financial loss modelling and production of risk metrics for the final program design(s) in Component 2;
- Preparation of a market information and analytics pack providing risk analytics in the standard format to facilitate efficient local market access to reinsurance / retrocession protection as required; and
- Transaction planning to provide guidance on the execution of the proposed insurance program(s).

Along with local markets mentioned under 1.3.1, the international re/insurance companies that the project will engage include:

- International markets: the Pacific Catastrophe Risk Insurance Company (PCRIC), Lloyd's of London syndicates—including AXA XL, Hiscox, Beazley, RenaissanceRe, Chaucer, MS Amlin, and Nephila—Allianz, Hanover Re, Swiss Re, Munich Re, Renaissance Re, Scor, Zurich, Descartes, Generali, Unipol, Global Parametrics, OTT Risk, Liberty, Odyssey Re, Sirius Re, Transatlantic Re, Peak Re, MSI, Tokyo Marine, Toa Re, Arch Re, Axis, Endurance, New Re, Asia Capital Re, and Partner Re.
- Global industry associations: such as the Insurance Development Forum, the International Cooperative and Mutual Insurance Federation (ICMIF), and the Microinsurance Network (MiN)—will also be engaged as vehicles for collective engagement where relevant.

***Component 2: Financial products and incentives for coastal communities***

Under this component, Willis Towers Watson (WTW) will design tailored insurance products and program(s) to address the climate risk to coastal fishing communities and support the climate adaptation of these communities. 'Insurance products' are the primary financial agreements between insurers and policyholders that cover beneficiaries for defined events; an 'insurance program' is how those products are distributed and administered by insurance providers and how the underlying risk in those products is aggregated and funded. In the context of this project, insurance product design can be considered both a stand-alone output and a component of insurance program design (since the primary insurance products are a necessary, but not sufficient, condition of an insurance program).

There are three key components to the insurance program design (see Figure 3 which provides the key requirements, falling into the three components of insurance program design, to be specified during program development**Error! Reference source not found.**): (i) fundamental product design (Output 2 .1.1); (ii) product distribution and administration (Output 2.1.2); and (iii) risk aggregation and funding

(Output 2.2.1, 2.2.2, and 2.2.3, supported by Output 1.3.3). Each of these three components will be designed through the project, resulting in at least one final, novel insurance product covering climate risk for communities in Fiji and PNG.


**Figure 3** Key components of insurance program design

The project will explore the integration of incentives and/or explicit risk financing for ecosystem management measures throughout insurance product and program design. Increasing the resilience of the ecosystems on which coastal communities rely for livelihoods and risk reduction, the products could (directly or indirectly as detailed in the three approaches below) build resilience to the impacts of long-term chronic stressors like sea level rise, temperature increases, and acidification, since healthier ecosystems are more able to cope with these slow-onset climate pressures. This would link community-level financial resilience to extreme events to the significant co-benefits associated with physical risk reduction—through ecosystem-based adaptation—that reduces the vulnerability of coastal communities to more frequent, less severe impacts. For example, incentivizing, monitoring, and enforcing community-level behavioral change to manage mangrove forests (e.g. building on WWF's existing work on mangrove restoration)—or other coastal ecosystems such as coral reefs, or even terrestrial ecosystems integrated in a ridge-to-reef approach—could increase physical resilience to climate threats, while pay-outs for extreme events increase financial resilience to shock events.[33]

The project will explore three approaches to integrate ecosystem-based adaptation and financial resilience into the insurance product and program design. The feasibility of these approaches will be assessed based on results from Component 1 surveys and consultations and Component 2 premium financing consultations against the conditions and requirements outlined below. WTW and WWF Pacific will outline and assess the feasibility of the approaches in each community. More than one approach may be appropriate and integrated into insurance products / program.

1. ***Implicitly / indirectly* integrate incentives for ecosystem management by incorporating ecosystems and ecosystem health into insurance product and program design**. This would be done by identifying and outlining the impacts of ecosystems and ecosystem health on climate risk profiles

[33] For example, mangroves surrounding coastal communities have been shown to lessen the effects of coastal inundation and intrusion; Brian Blankespoor, Susmita Dasgupta and Glenn-Marie Lange. Mangroves as Protection from Storm Surges in a Changing Climate, March 2016

and metrics. Healthy marine ecosystems—and other risk reduction / climate adaptation measures—positively influence the risk profile of coastal communities (e.g. reefs attenuate wave energy and, therefore, reduce coastal flood risk; mangroves do the same, in addition to reducing fluvial flood risk). As insurance pricing is fundamentally risk-responsive, healthier ecosystems (and lower risk) should translate into lower premiums, while less healthy ecosystems (and higher risk) should translate into higher premiums, creating a price signal to support ecosystem management measures. WTW will integrate ecosystems that provide nature-based solutions to risk-reduction into fundamental insurance product and program design (e.g. in index design and/or risk pooling options) where applicable.[34]

The key condition to this integration is the ability to quantify an objective, demonstrable, and reliable relationship between ecosystem characteristics (e.g. extent and health) and the probability of pay-outs.

2. **Integration of incentives for ecosystem management into the insurance program by identifying opportunities to offer concessional community-level insurance as a reward for behavioral shifts to sustainable ecosystem management practices**. For example, communities would receive concessional access to insurance products through subsidized enrollment in the proposed insurance program (which would, for example, provide direct pay-outs to community organizations and/or cooperatives, or directly to households, to smooth income shocks from the impacts of extreme events and facilitate recovery / rebuilding) as a reward for meeting certain environmental management protocols (e.g. responsible fisheries management, implementing harvest control rules and conservation activities).

   There are two essential conditions that must be met in order to integrate incentives for sustainable ecosystem management measures with insurance in this direct way:
   1. There must be an existing ecosystem management policy / plan / program[35] to which adherence is to be incentivized (and monitored); and
   2. There must be financial support available to offer concessional access to insurance as an incentive.

   Existing ecosystem management policies / plans / programs will be reviewed to assess:

   a. Whether there are clearly identified behavioral change goals / needs to strengthen community resilience to climate change (e.g. installation of vessel monitoring, implementation of fishing quotas, no-take zones and/or gear bans, reduced chemical use and/or reduced deforestation), and whether concessional access to financial products would add value towards incentivizing this behavior change;

[34] Note that insurance programs are often supported by government (in part) in order to create market incentives for investments in risk reduction (which in the Pacific region would include nature-based solutions for risk reduction). For example, flood insurance programs in the USA and UK explicitly integrate risk reduction in program design and pricing (although they do it differently in each case).

[35] It is beyond the scope of this project to develop or strengthen plans or policies for environmental stewardship or provide capacity building or training towards this goal. The project will engage with existing plans and policies and examine whether concessional access to the project-developed insurance products can be integrated into the implementation of those plans and policies as an incentive towards existing initiatives to help strengthen community resilience to climate change.

b. Whether the plan / program will be in place long-term (e.g. not a 3-year project, but a plan that will be managed and monitored long term - e.g. fisheries management plan);
c. Whether adherence to the policy / plan / program could be monitored long-term and through existing mechanisms, noting that if it is to be offered as a community-level incentive, individual actions could have a bearing on the insurability of the entire community; and
d. Community support.

Ecosystem management policies/plans/programs could include initiatives related to recent commitments from governments to sustainable ocean management—e.g. sustainable fisheries policies—or even an organic agriculture certification or standard (which could help pay the premiums and ensure better agricultural practices).

3. I**nsurance pay-outs to directly finance the implementation of pre-arranged climate shock-responsive ecosystem management plans** (e.g. post-event iFAD deployment, catch restrictions, and/or reef and/or mangrove response). While this is a direct ecosystem response tool, rather than an "incentive" for sustainable ecosystem management, it would provide funds to directly reduce the impacts of extreme climate events to ecosystems.

   The insurance pay-outs could finance the implementation of management plans that focus on mangrove and/or reef restoration and protection or reef catch restrictions, each of which could indirectly increase the resilience of community members in the face of climate change. Further, not only would insurance for post-event ecosystem management activities support the implementation of those activities *after* shock events, but the existence of a predictable source of post-event financing would enable and incentivize collaboration, coordination, and contingency planning *before* the event occurs. Together, planning and financing would increase the likelihood of ecosystem management activities being implemented in the aftermath of a shock event (also likely speeding ecosystem recovery and decreasing disruptions to ecosystem service provisions). In Fiji, it has been shown that cyclones result in increased pressure on reef fisheries as communities seek food security; insurance pay-outs (and the preparedness and response planning they can incentivize and enable) could help mitigate the risk of overfishing.

   Crucially, the viability of this type of "ecosystem response financing mechanism" is <u>subject to community priorities and practical community capacity and readiness to implement shock-responsive ecosystem management</u>. If shock-responsive ecosystem management is identified as a community priority in Component 1 and communities have the relevant expertise and planning capacity—e.g. supported through complementary programming and activities such as currently under development at the Asian Development Bank (ADB)[36]—ecosystem response will be built into the pay-out management and distribution process and protocols in Outcome 2.1.

It is worth noting that while the project will explore providing these products in exchange for environmental stewardship, the products also function as stand-alone climate adaption instruments. The products designed will respond to climate events no matter how the access is granted (i.e. as an incentive or as a climate risk management tool).

[36] The project will engage with a complementary project under development by the ADB focused on reef insurance in Fiji to explore synergies with this concept and ensure coordinated engagement with the Government of Fiji.

Designing and mobilizing these options will be pursued in the project Outputs as indicated, based on the following feasibility criteria.

| **Approach 1:** *Implicitly / indirectly* integrate incentives for ecosystem management by incorporating ecosystems and ecosystem health into insurance product and program design | |
|---|---|
| **Conditions for feasibility of approach** | **Reference in project strategy** |
| An objective, demonstrable, and reliable relationship between ecosystem characteristics (e.g. extent and health) and the probability of pay-outs must be quantified. | This will be assessed and integrated as highlighted under Output 2.1.1. |

| **Approach 2:** Integration of incentives for ecosystem management into the insurance program by identifying opportunities to offer concessional community-level insurance as a reward for behavioral shifts to sustainable ecosystem management practices | |
|---|---|
| **Conditions for feasibility of approach** | **Integration/Execution in Project Strategy** |
| An existing ecosystem management policy / plan / program (to which adherence can be monitored) must be identified. | This will be assessed as detailed under Component 1. |
| Premium financing—available to offer concessional access to insurance as an incentive—must be mobilized. | This will be pursued as outlined under Outcome 2.2. |
| Concessional access to insurance in exchange for adherence to the ecosystem management policy / plan / program must be granted. | This will be developed and integrated into roll-out as highlighted under Output 2.1.2. |

| **Approach 3:** Insurance pay-outs to directly finance the implementation of pre-arranged climate shock-responsive ecosystem management plans | |
|---|---|
| **Conditions for feasibility of approach** | **Integration/Execution in Project Strategy** |
| Ecosystem response must be a community priority. | This will be assessed as detailed under Component 1. |
| Communities must have the necessary capacity and readiness to implement shock-responsive ecosystem management. | This will be assessed as outlined under Component 1. |
| Pay-out management protocols must be designed to fund shock-responsive ecosystem management. | This will be developed as indicated under Output 2.1.2. |

All three approaches will be pursued by the project as detailed in the descriptions of the relevant project activities. The approaches will be fully and successfully integrated into the final insurance program if the above criteria for feasibility are met.

It is likely that the above conditions of feasibility will be met in at least some of the project communities, and this will allow for testing of the approach. If none of the three approaches are found to be viable in any of the project target communities, then the project will focus on delivering the insurance products for increased adaptation capacity of the coastal communities.

**Outcome 2.1 Insurance program(s) designed to underpin improved financial resilience to climate shock events for three target communities, including developing options for incentivizing sustainable ecosystem management practices and other climate adaptation measures in risk-responsive pricing**

Output 2.1.1 Insurance products to address critical climate risks to target communities, including index design, pay-out structure, underwriting and settlement data identification, and risk analytics

Under this output, insurance product blueprints will be developed. Product design will be informed by the requirements of both sides of the insurance contract: insurers and insureds. The policy characteristics to be specified (as previously outlined in Figure ), include:

1. Product purpose;
2. Policy form and product structure;
3. Pay-out formula and trigger design;
4. Loss calculation process / settlement data; and
5. Product-level risk analytics / underwriting methodology / pricing

Underpinning the specification of each of these design characteristics will be hazard, exposure, and vulnerability data. Therefore, this output will begin with the identification, collection, and validation of hazard, exposure, and vulnerability data for insurance purposes.

Product purpose will be largely determined by the priority climate risk and impacts identified through community engagement in output 1.1.1; community priorities will lead product development, which will also be informed by the existence of suitable data so that products can actually be underwritten by insurance markets.

The WTW team will assess the product purpose priorities against the backdrop of the Output 1.3.1 assessment of local insurance marketplace to determine the policy form and product structure. If coverage priorities go beyond property assets (e.g. into livelihood protection, income smoothing, business interruption, community-level response financing, etc.), and considering the baseline assessment of the local insurance marketplace in Fiji and PNG and the likely need for efficient retrocession, it is likely that the most suitable policy form will be index-based insurance. This form requires the design of a parametric index, which will underpin the product structure.

Index design will be based on historical event and impact data establishing the relationship between independent event parameters and community impacts. The specific relationship of community impacts and coastal ecosystems will be assessed. Pay-out structures and triggers will then be defined at index thresholds (which may be higher or lower, depending on ecosystems' contribution to coastal resilience), in line with community financial needs and considering ultimate product affordability. Index design will build on community consultation and robust risk assessment, and WTW's parametric insurance expertise—including hazard modelling, historic and (future-looking) probabilistic impact analysis (including explicit integration of the risk reduction services of coastal ecosystems), and advanced quantitative actuarial assessment—will be critical to design an index that appropriately and reliably captures community needs. The process will involve three broad steps:

1. Data identification, collection, and validation (including hazard, exposure, and vulnerability data—including ecosystems—from community consultations, grey and academic literature on historical events, earth observation / remote sensing, and modeled data sources);
2. Fundamental index design linking cyclone (wind), extreme rainfall, drought, and ocean heatwave hazards to community impacts and financial need, explicitly recognizing ecosystems' role in reducing impacts; and
3. Definition of pay-out structure(s).

Finally, two methodologies will be provided:

- For the loss calculation process, reliable, regularly reported, and publicly available real-time (or near real-time) data for the pay-out settlement process will be identified, and a complete loss calculation process specifying the exact settlement data inputs and processing methodology; and
- For the underwriting process, a methodology to determine the probability of covered events and associated pay-outs and, therefore, actuarially sound product-level pricing. The underwriting methodology will highlight impacts of ecosystems and ecosystem health on risk metrics. To provide an illustrative example, healthy mangroves and/or coral reefs may reduce the risk of storm surge impacts, which may reduce the probability of pay-outs from less severe windstorms.

Final product design—in the form of insurance product blueprints—will include the drafting of the above policy characteristics. Product-level risk analytics and metrics / product pricing, calculated according to the methodology suitable for the underwriting process, will also be provided.

Output 2.1.2. Insurance program design for the deployment of the financial products in three target communities, including distribution, administration, and risk pooling options, risk metrics and data suitable for underwriting and settlement, pay-out management processes, and options developed for incentivizing ecosystem management practices and other climate adaptation measures in risk-responsive pricing

Under this output, the insurance program(s) for the distribution, administration, and aggregation of the financial products (developed in Output 2.1.1) will be designed, covering three target communities. This will likely be an iterative process with Output 2.1.1, especially considering the interaction between the fundamental product design and the identification of the policyholder(s), risk pooling / aggregation mechanisms, and pay-out protocols. As detailed above, while the financial product design (Output 2.1.1) and associated blueprints detail what is covered (i.e. "covered events," typically defined in terms of hazard and exposure), what triggers what level of pay-out (index design and pay-out structure), and how a pay-out calculation is made, the insurance program builds out the components necessary to deploy the financial products in the target communities, delivering coverage to end-users and detailing the administration process for policies and pay-outs (e.g. are policyholders the same as the ultimate beneficiaries of pay-outs, how are pay-outs managed and distributed to beneficiaries, and how is beneficiary information—critical to making sure pay-outs end up where they should—administered). WTW will undertake the following key steps of program design:

1. Identification of policyholder(s)—the policyholder(s), who will hold the contract with the insurance provider, will be identified. The policyholder(s) may be a community organization or cooperative or households / enterprises themselves. The policyholder will be defined through the community consultations in Component 1. The key conditions are:
    - The policy holder is able to collect, manage, and pay premiums;
    - The policyholder is able to distribute pay-outs to covered beneficiaries (and manage disputes); and
    - The underlying parametric index serves as a good proxy for impacts to that policyholder—at an appropriate resolution.

    If there are no community organizations or cooperative able to act as policyholder, govern, manage, and distribute pay-outs—including managing disputes related to triggers and pay-outs—and receive

financial support as outlined in Outcome 2.2, cover will likely need to be direct between the beneficiaries and the insurers, with households / enterprises acting as the policyholders. WTW will document the decision-making process and requirements related to the identification of the policyholder.

2. Identification of enrollment, program administration, methods for deployment and integration of premium support, and risk pooling / joint procurement options in the communities (building on the community-level options identified in output 1.1.1)—program enrollment and administration processes will be identified. If the optimal program enrollment is identified to be direct between the insurer and policyholder (at the individual level), the local insurer will be responsible for insurance program administration. Alternatively, community organizations or cooperatives (i.e. "risk aggregators") may pool community risk and/or support policy administration and enrollment options that meet the needs of the community and its members. They may also manage and administer the integration of incentives for climate adaptation measures (including ecosystem management and other risk reduction measures) into program design. For example, community organizations may:
    - Act as policyholder(s);
    - Facilitate joint insurance procurement / a group policy of participating households and/or enterprises;
    - Manage and administer program enrollment, premium collection and payment, and/or collection, monitoring, and management of data to inform concessional enrollment / external premium support, levels of which could be differentiated on the basis of:
        - Means-testing;
        - Adherence to ecosystem management plans; and/or
        - Implementation of adaptation measures;
    - Negotiate community-level premium discounts or index adjustments for community adaptation measures;
    - Manage and distribute community-level pay-outs (including the governance and management of differentiated pay-outs on the basis of differentiated impacts) amongst members;
    - Manage and administer beneficiary information; and/or
    - Adopt community-level processes to encourage insurance enrollment.

    Additionally, given the remote locations of some communities and the potential difficulties for in-person enrollment and policy administration, digital platforms will be explored for distribution and administration.

    Further, whether the program is administered at the individual or community level, the methodology for tying program enrollment—specifically, concessional access / external premium support identified in Outcome 2.2—to adherence to the ecosystem management policy(ies) / plan(s) / program(s) identified in Component 1 will be developed.

3. Development of pay-out management processes and protocols—building on the settlement process of the primary financial products, pay-out management processes and protocols will be developed. This will include the management and maintenance of policyholder and ultimate beneficiary information (e.g. geolocation and banking information). If the policyholder(s) are community organizations, it will also include protocols and process for pay-outs management and distribution to end-beneficiaries. And if the pay-outs are pre-planned to fund the implementation of specific

post-event activities (e.g. ecosystem response), the pay-out management protocols will specify this process.

Finally, program-level risk analytics and metrics will be provided to indicate the price of the final program and all of the risk therein, which will feed into the probabilistic financial loss modelling and market information and analytics pack in output 1.3.3. The final insurance program concept design and analytics for deployment in three target communities will be captured in a final technical report.

**Outcome 2.2. Premium financing identified and mobilization pursued**

It is critical to recognize that extreme climate risk—especially in Pacific Small Island Developing States (PSIDS)—is not and cannot be the responsibility of vulnerable communities alone. Therefore, this outcome, and the project more generally, is not about "convincing" communities to pay insurance premiums. Rather, it is focused on shifting from an ad hoc, *ex post* community-level shock response (which is often disjointed, delayed, and ineffective when it comes to reducing disruption and short- and long-term impacts on communities) to a more formalized *ex ante* community-level shock response (which would get funds quickly and efficiently in the hands of those that need it to smooth shocks, reduce disruptions, manage natural resources, and respond to impacts).[37] Therefore, Outcome 2.2 is about exploring the landscape of risk ownership and responsibility in these communities—including an assessment of public and private risk sharing opportunities and across the backdrop of national and international climate and conservation finance policies, priorities, and negotiations.

This outcome will pre-arrange community access to sources of international, national, and local finance by connecting those sources to the insurance program designed in output 2.1.2; the insurance program will be the means through which to channel pay-outs, which are funded through premium support, directly to impacted communities. This more formalized approach, leveraging the administrative and distributional capacities of local and international insurance markets, as well as international climate finance—if supported by concessional finance—will directly increase community resilience by pre-positioning financing so communities are empowered to execute more rapid, predictable, and autonomous shock-response.

The "risk holders"—those that own and are responsible for extreme climate risk in the communities, both implicitly and explicitly—will be identified. This will include governments, local communities, and key private sector entities operating in Fiji and PNG—e.g. in the tourism, fishing, and agriculture sectors.

Ultimately, the national government—and international aid organizations and development partners, as well as, in some cases, family members—are most often the "insurer of last resort" for communities affected by covariant shock events like extreme climate events. This means that the governments of Fiji and PNG implicitly share the risk with local communities. Therefore, this outcome will include strategic engagement with the governments of Fiji and PNG on potential avenues for public-sector support and leadership to incentivize private-sector participation in community-level resilience. For example, governments have the ability to raise taxes and levies and allocate the proceeds to premium support for vulnerable communities. Ways of effectively shifting the risk ownership from vulnerable communities to

[37] Note that agricultural insurance programs worldwide enjoy government support—often through direct subsidies.

the private sector through public-sector incentives will be explored as part of the premium aggregation and short- and long-term premium financing strategies and engagement.

Output 2.2.1. Engagement and consultations to mobilize short-term premium support for "proof of concept" of insurance program(s) developed under 2.1.2, including extending coverage as an incentive for better ecosystem management practices

As the value of insurance does not become apparent until a covered event occurs and a pay-out is made, a 'proof of concept' stage is needed to demonstrate the value of insurance in providing increased adaptive capacity to communities in the event of a climate shock. Global experience with index insurance has shown that supporting take-up of insurance at launch greatly increases the chances that insurance will become broadly used.

Further, a key condition to offering concessional access to insurance as an incentive to embrace and adhere to ecosystem management policy(ies) / plan(s) / program(s) is direct financial support of premiums. Therefore, this Output will engage with funders who may support financial support of premiums in order to incentivize ecosystem management activities.

This output is focused on securing short-term funding to finance the initial deployment and 'proof of concept' for the developed financial products in target communities. The initial premium financing will be targeted from non-GEF sources to cover the beneficiary communities against adverse climate impacts, directly contributing to their climate resilience, for a set period of time. It will also allow communities to gain familiarity with insurance as a mechanism and enable testing and refinement of the program.

The project will undertake the following activities:

- Consolidation of community willingness and ability to pay assessment: mechanisms for community-level premium payments will be outlined and assessed (including risk aggregation entities such as cooperatives, associations, and other community organizations).
- Development of short-term premium financing strategy: WTW will quantify the cost of the insurance program vs. community willingness and ability to pay. Financing will need to be mobilized cover the 'gap' between what communities are willing to pay and the total cost of the insurance program premiums. WTW will identify potential sources—including the private sector, national governments, and international donors who have some responsibility and/or interest to share community-level risk and cover this 'gap' – and develop a strategy to engage these potential funders. WWF Pacific will identify potential sources with an interest in offering premium support as a reward for ecosystem management activities and develop a strategy to engage these potential funders (including the below consultations).
- Consultations on the potential to provide premium support as a reward for sustainable practices / adherence to ecosystem management policy(ies) / plan(s) / program(s). The co-benefits of environmental sustainability will be an integral part of the short-term financing strategy, as this will present an additional benefit 'proof of concept' to organizations interested in linking financial products with environmental incentives.
    - This will include the convening of private sector roundtables with key representatives from the tourism, fishing, and agriculture sectors in Fiji and PNG.
- The project will implement the short-term premium financing strategy, holding consultations, structured interviews, and deploying willingness to pay assessments with the private sector,

government, and potential donors on community-level financial climate adaptation strategies and premium financing.
    - This will be underpinned through the assessment of risk responsibility and ownership section of the strategy.

Output 2.2.2. Design of premium aggregation and management mechanisms

Premium support will be sought from multiple sources (e.g. government, development partners, private sector, and/or philanthropy); therefore, a financial management plan and "blended finance mechanism" for those premiums must be developed.

This will include the engagement of government on potential mechanisms to shift risk ownership from the most vulnerable coastal communities to the private sector and national and international climate finance sources. The funds raised will then need to be managed and governed for the benefit of vulnerable communities' financial climate resilience—most likely through a dedicated vehicle. Therefore, this output will include the development of guidelines related to the financial infrastructure required to underpin a blended finance mechanism. Crucial questions to be answered about that financial infrastructure include:

- What financial infrastructure will premium aggregation utilize (e.g. a dedicated vehicle / bank account); and
- Who will have authority over that financial infrastructure / how will it be governed.

Under this Output, WTW will host funder workshops and engage donors and government to explore potential blended finance arrangements for the aggregation of premium financing to support vulnerable community access to climate shock protection.

Based on these consultations, WTW will design suitable mechanism(s) for the collection and aggregation of premiums and develop guidelines related to their management and governance. This will include the identification of the institutional arrangements required to aggregate and manage premium financing on behalf of subsidized beneficiaries.

Output 2.2.3 Strategy for sustainable, long-term *ex ante* financing of community climate risk

In addition to the short-term premium finance being identified under Output 2.2.1, which will be used to cover community premiums during a 'proof of concept' phase, long-term premium finance will be explored to ensure the sustainability of the insurance program. A long-term premium financing strategy will be developed, including:

- A long-term risk ownership and sharing assessment and guidelines—an outline of climate risk responsibility (i.e. implicit and explicit contingent liabilities) in the target communities (in the wider national, regional, and global context) with recommendations on the potential for structured risk management and financing to clarify risk ownership and strengthen risk sharing arrangements (e.g. supported by financial mechanisms to formalize risk sharing, which could include legal frameworks, taxes, levees, and/or budget allocations);
- The policy and business case for potential funders—building on the risk ownership and sharing assessment, a policy and business case tailored to key stakeholders and funders (e.g.

government, international and regional organizations, development partners, civil society, philanthropy, and the private sector) outlining the benefits and limitations of supporting an insurance program (this will include offering concessional access to insurance as an incentive for ecosystem management practices); and
- A long-term engagement plan—guidance on community-level engagement activities to build risk management culture and recommendations on future policy engagements at the national, regional, and global levels to maintain the climate resilience of vulnerable coastal communities in Fiji and PNG.

Under this Output, the project will undertake the following activities to feed into the long-term premium financing strategy:

- Identify potential sources for long-term financing of premiums: Desktop research and analysis to identify risk responsibility, contingent liabilities, and sources for long-term financing of the proposed insurance program (including funders who may offer concessional access to insurance as an incentive for ecosystem management practices).
- Consultations and surveys with potential financing sources identified above: WTW will engage potential donors and government on long-term financing options to cover the insurance premiums. The amount communities are willing to pay for the financial products (as assessed in Output 1.1.1) will be included in consultations, and blended finance arrangements—combining finance at the community level with other donor sources to meet the coverage premiums (e.g. through mechanisms identified in Output 2.2.2)—will be discussed.

A final program sustainability and project close workshop will then be held with identified potential sources of premium financing to present the strategy and build support for the sustainability of the insurance program.

***Component 3: Knowledge Management and Monitoring & Evaluation***

Under this Component, the project will support project-level monitoring and evaluation to track and evaluate project progress. In addition, a knowledge management and communications strategy will be implemented to support up-take of project methodologies and results.

**Outcome 3.1 Effective project communications, knowledge management, and adaptive management**

Output 3.1.1 KM products disseminated to share lessons and scale up similar private sector work internationally on financial products for climate resilience

Through this Output, the project will develop knowledge and communication products to disseminate and scale up the project's financial products for climate resilience at an international level.

The full Knowledge Management and Communications Plan can be found in Appendix 6: Knowledge Management and Communications. WTW will undertake the following activities:

- Develop knowledge products that support technical outputs under the Project (a full list of products can be found in Appendix 6: Knowledge Management and Communications);
- Package relevant knowledge above into formal communications products (including brochures, reports, videos), adhering to WTW, WWF and GEF brand guidelines;

- Deliver a public-facing website, hosted by WTW, to ensure both targeted stakeholders and interested parties have access to the knowledge and communication products;
- Host webinars or side events to present project deliverables, best practices, and lessons learned (TBD based on COVID 19).

Communication and knowledge products will be shared directly with key stakeholders via methods defined in the Stakeholder Engagement Plan (Appendix 4: Stakeholder Engagement Plan), including target communities, government, and other partners developing insurance products.

Output 3.1.2 M&E reports used for adaptive project management and successful project delivery

The Project Management Unit—hosted at WTW—and WWF Pacific will follow an M&E plan (see Section 2.7) to monitor and report on project progress and identify any areas where adaptive management is required. Under this Output, the PMU will draft and deliver the following:

- A six month Project Progress Report (PPR), and a 12-month PPR, which includes tracking against the results framework and work plan (and from which the PIR is generated and submitted to the GEF Secretariat);
- Annual Work Plan and Budget (AWP&B) with implementation targets;
- Quarterly Financial Report;
- Annual adaptive management meeting to review project results and discuss any necessary adjustments to the project strategy; and
- Terminal Evaluation Project close report.

Additionally, a Terminal Evaluation will be conducted by independent consultants.

## 2.3 Institutional Arrangement

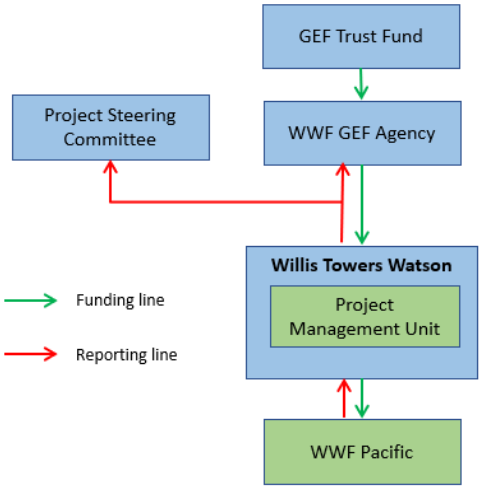



**Figure 4 Project Institutional Arrangement**

The proposed implementation arrangement (Figure 4) includes WWF as the GEF Agency, WTW as the lead Executing Agency and responsible for hosting the PMU, WWF Pacific as a project executing partner, and a Project Steering Committee.

**Project Management Unit**

Willis Towers Watson (WTW) will be the lead Executing Agency for this project. WTW has extensive experience in developing and assessing risk management tools and risk transfer products, as a global risk advisor and re/insurance broker with close to 200 years of experience. WTW has had a strong presence in the Pacific dating back more than 25 years and the project team is made up of globally recognized experts in public and private sector insurance product and program development and implementation.

WTW will be responsible for project administration, project management, reporting, and monitoring and evaluation for the project and will coordinate with the WWF GEF Agency.

WTW will host the Project Management Unit (PMU) in their London office, which will be responsible for the day-to-day management of the project. The PMU will be responsible for project administration (issuing sub-grants), project management, reporting, monitoring and evaluation for the project and will coordinate with the WWF GEF Agency. The PMU will be comprised of a Project Manager at an average of between 10% and 20% FTE over the life of the project.

Additional to the PMU, WTW will assign the following roles to support the technical delivery of the project:

- Senior Director (overall project oversight and delivery responsibility);
- Disaster risk financing and insurance Subject-Matter Expert;
- Risk data and modelling Technical Expert; and
- Risk financing and insurance Analyst.

Roles may be delivered by more than one appropriately qualified individual.

WTW will ensure during the design and roll out of insurance products that consultants and staff are not offering products that would be considered unfair, deceptive or abusive to the communities these products will engage.

**WWF Project Execution as a Sub-grantee**

WTW has requested WWF Pacific support execution for efficiency and success in delivery of this proposed project. Specifically, WWF Pacific is needed for execution for the following reasons:

- WTW as an international private sector entity cannot go straight to local government and communities to implement the project. WWF Pacific has built strong relationships with communities in the proposed project sites and can facilitate linking WTW with local government and the communities. No other organizations in PNG and Fiji have these existing relationships, ready to build upon for this project strategy.
- A base-level understanding of financial processes is required for WTW to be able to then discuss with communities potential financial products to assist overcoming specific climate shock events, to train communities on those products, and to work with communities to roll the products out, and this is why the communities in Great Sea Reef and Madang have been selected – because previous work by WWF and the Community Facilitators has provided that base-level financial literacy on which this project can build.

- WTW needs to work through trainers who can help get the technical information across to communities in a way that is locally-appropriate and in local language and also in a way that is not misleading, so that communities do not lose trust with the private sector. The community facilitators in Madang that have been working for years already with WWF will be critical for playing this role.

There are no alternative organizations that have created this base-level financial knowledge with communities, have existing community trainers to work with, and no alternative organizations that hold existing strong relationships with communities in the high climate risk areas of Fiji and PNG that can create an effective link to WTW in the time span of the project duration. As such, a small portion of the project activity-related budget would be sub-granted from WTW to WWF Pacific to facilitate relationships at the local level, to connect in the Community Facilitators, and to ensure a smooth and locally-appropriate implementation of the project on the ground.

WTW will make a sub-grant to WWF Pacific, which will be the primary interlocutor with the coastal communities and facilitate relationships at the local level, to connect in the Community Facilitators, ensure alignment with the existing sustainable ecosystem management program of WWF and to ensure a smooth and locally-appropriate implementation of the project on the ground. More specifically, WWF Pacific will:

- Organize and facilitate the community consultations to identify climate risks and solutions (output 1.1.1)
- Provide direct inputs, review and translation of the manual and training materials (output 1.2.1) to ensure the materials are culturally appropriate and in local language,
- Organize and facilitate the training of Community Facilitators (output 1.2.2), and the Community Facilitators training of the selected communities on the financial products developed under component 2 (output 1.2.3).
- Provide in partnership with the Department of Environment (Fiji) and Ministry of Fisheries (Fiji), and relevant government agencies in PNG, relationship facilitation between WTW and the selected project communities and partners across both components.

The total sub-grant to WWF Pacific is $210,096 to cover costs of staff, travel costs for staff and project partners (e.g. community facilitators, government), training venues and meeting costs, and third party agreements.

**Project Steering Committee**

A Project Steering Committee (PSC) will be formed to serve as the oversight, advisory, and support body for the project. The PSC will include a representative from the Ministry of Economy (Fiji), Ministry of iTaukei Affairs, Department of Environment (Fiji), the Ministry of Fisheries (Fiji), relevant government ministries in PNG, WTW, and WWF Pacific. The project steering committee will also include a representative from WWF-International's Sustainable Blue Economy ACAI or Blue Futures Initiative. A member of the WWF GEF Agency team will hold an "observer status" on the Project Steering Committee.

The PSC provides overall guidance for the implementation of the project. It is responsible for approving annual work plans and budgets and reviewing and approving any changes to the project strategy alongside WWF GEF Agency. The PSC will be invited to a (virtual) annual reflection workshop (see M&E section) to discuss the theory of change and project progress.

**GEF Agency Oversight and Supervision**

WWF-US, through its WWF GEF Agency will: (i) provide consistent and regular project oversight to ensure the achievement of project objectives; (ii) liaise between the project and the GEF Secretariat; (iii) report on project progress to GEF Secretariat (annual Project Implementation Report); (iv) ensure that both GEF and WWF policy requirements and standards are applied and met (i.e. reporting obligations, technical, fiduciary, M&E); (v) approve annual workplan and budget; (vi) approve budget revisions, certify fund availability and transfer funds; (vii) organize the terminal evaluation and review project audits; (viii) certify project operational and financial completion, and (ix) provide no-objection to key terms of reference for project management unit.

## 2.4 Stakeholder Engagement

The PMU will be responsible for ensuring compliance with the GEF and WWF standards on Stakeholder Engagement, specifically the WWF Standard on Stakeholder Engagement and the associated Procedures for Implementation of the Standard on Stakeholder Engagement. A project-specific Stakeholder Engagement Plan (SEP) has been developed to guide stakeholder consultations during execution and can be found in Appendix 4: Stakeholder Engagement Plan.

**Consultations during Project Development**

A range of stakeholders were engaged during project development.

1. Fiji

WWF Pacific consulted community representatives in the Tavua District in October 2020, 4 districts of Qoliqoli Cokovata at the end of February 2021, and the adjacent Nadogo community in March 2021.

Community members recognize the value of insurance (made especially relevant for communities recently impacted by Tropical Cyclone Yasa and Tropical Cyclone Ana), however they clearly indicated that they would need guidance with the process and with the concept of climate insurance. Feedback indicates that a majority of households dependent on fishing do not maintain any form of insurance and despite records of savings do not effectively save – indicating a strong need for financial literacy and planning.

A validation workshop took place on March 11th, 2021. About 20 participants representing government departments, private sector, CSOs and IGOs were present and overall supportive of the project.

2. Papua New Guinea

WWF Pacific engaged 15 target communities in three districts (Madding, Sumkar and Bogie) during PIF development and during project development, in October and December of 2020. Community members were interested in the project as a mechanism to help secure their livelihoods and protect food sources, and noted that they needed a better understanding of how the insurance products could work. Climate threats were determined to be disruptive to ecosystem services and livelihoods.

During Project Document development, from March 9th- 12th 2021, WWF-Pacific staff engaged with a limited number of local community members on gender and projects being implemented by WWF-Pacific. The overall results from the data collected during these consultations indicate that WWF projects have significant positive impact on the communities and women in the project sites.

WWF Pacific has also engaged the Conservation Environment Protection Authority (CEPA) for this project, they provided a letter or support in November 2019.

**Stakeholder Engagement During Execution**

A Stakeholder engagement plan was developed to ensure that the views and inputs of stakeholders, including women and men in target communities, are taken into consideration throughout project implementation. The PMU (under WTW) will be responsible for ensuring implementation of the plan, WWF-Pacific will lead engagement with local communities.

The Stakeholder Engagement Plan details the method and level of engagement with each stakeholder during each year of project implementation. More details can be found in the Stakeholder Engagement Plan, Appendix 4: Stakeholder Engagement Plan.

**Table 3 List of Stakeholders and Engagement During Implementation**

| Stakeholder Type | Name | Frequency of Engagement/ Project Years | Engagement During Project Implementation |
|---|---|---|---|
| **Private Sector:** | Pacific Catastrophe Risk Insurance Company (PCRIC) | Y1, Y2, Y3 | Local insurance providers and international partners will be engaged early in project development to support the design of financial products, roll-out options and to determine the market's competitive pricing. Ultimately, it is envisioned that insurers will agree on, distribute and then administer policies related to these financial products. |
| | Local insurance providers | | |
| | International market actors | | |
| | Potential Donors | Y1, Y2, Y3 | The project will hold structured interviews with potential donors to discuss their willingness to cover short-term insurance premiums, as well as inform a plan for long-term premium financing. A workshop will be held with potential donors and government to explore blended finance arrangements and premium aggregation going forward. |
| **Fiji Communities including indigenous peoples** | Tavua District, Qoliqoli Cokovata and Nadogo District District | Y1,Y2,Y3 | Local communities in Fiji and Papua New Guinea are the key beneficiaries of the project. Local communities will be invited to participate in surveys and consultations to identify climate hazards and discuss solutions. Second, they will be invited to workshops and trainings that promote financial literacy, provide awareness around risk financing options, and assess demand for these products within the communities. Community input on financial product and distribution options are vital for the success of the project. During the third year of the project, surveys will assess the community's willingness to pay for premiums and options for long-term financing. |
| **Papua New Guinea Communities including indigenous peoples** | Madang Province | Y1,Y2,Y3 | |

| | | | |
|---|---|---|---|
| | | | The project will employ a gender-sensitive approach for all community consultations. |
| **Papua New Guinea Government** | Conservation and Environment Protection Authority | Y1,Y2,Y3 | The Government of Fiji and Papua New Guinea will be involved in the design of the financial products and roll-out plans. The project will conduct interviews with members of the government to discuss risk financing options, as well as discuss different mechanisms to aggregate premiums and distribute the product.<br><br>In addition, provincial level government will be included and informed of community level consultations. |
| | National Fisheries Authority | | |
| | PNG Forestry Authority | | |
| | Provincial Governments (Madang province) | | |
| | Department of Finance | | |
| | Local Level Governments | | |
| | Ward Planning Administration | | |
| **Fiji Government** | Ministry of Environment and Waterways | | |
| | Ministry of Fisheries | | |
| | National Disaster Management Office | | |
| | Ministry of Economy - Climate Change Division | | |
| | Ministry of iTaukei Affairs (Indigenous Peoples) | | |
| | Provincial Government | | |
| **NGOs** | Wildlife Conservation Society | Y1,Y2,Y3 | NGOs and multilateral organizations will be interviewed and consulted on the possibility of incorporating environmental management into the application of the insurance pay-outs. The organizations will be solicited for feedback and advice on methods of adherence and monitoring to ensure improved environmental management practices are being followed and bolstered by insurance pay-outs. |
| | World Vision | | |
| | The Nature Conservancy | | |
| | Fiji Environmental Law Association (FELA) | | |
| | Conservation International | | |
| | Fiji Locally Managed Marine Areas | | |
| | Women in Fisheries Fiji | | |
| **GEF Multilaterals:** | ADB | | |
| | World Bank | | |
| | UNDP | | |
| | FAO | | |
| | IUCN | | |
| | IFC | | |

## 2.5 Gender

**National Gender Analysis**

**Fiji**. In the past decade, the Fijian Government has enacted and introduced several critical pieces of legislation, policies and strategic initiatives that reference gender inclusion, including a national strategic planning document, the Roadmap for Democracy and Sustainable Socio-economic Development[38] and a

[38] Ministry of National Planning. 2009. Roadmap for Democracy and Sustainable Socio-economic Development 2010-20214. Available online at https://www.fiji.gov.fj/getattachment/Govt--Publications/Peoples-Charter/RSSED.pdf.aspx

national review on the progress in the implementation of the Sustainable Development Goals[39] that directs all sectors to share the responsibility for achieving gender equality. Despite these efforts, Fiji still reflects vast gender-based inequalities in three main dimensions: i) reproductive health, ii) empowerment, iii) economic activity.[40] The gender gaps in labor force participation are significant; 81 % of men are employed or actively looking for work, while only 46% of women are employed or looking for work.[41] Furthermore, there is a lack of gender analysis capacity across all the government ministries and the absence of sex-disaggregated data.

Gender relationships in Fiji vary by ethnicity and rural-urban contexts. The two main ethnicities are the i-Taukei and Fijians of Indian descent; the women from these two groups experience different labor force participation. 53% of i-Taukei women are in the labor force compared with one-third of Fijian women of Indian descent.[42] Another important issue is the status of land ownership. The land is a key economic resource in Fiji. It has a traditional inheritance dimension that favors men in both ethnic groups.[43] This aspect can also be found in the management of resources, while women and men in Fiji share the same views regarding the availability and importance of resources, women do not participate equally in community resources management in either community, though over the past 10 years a lot of effort had been invested in empowering women participation in decision making processes including natural resource management and there is an increasing trend in women's participation in Fiji.[44] The lack of land ownership combined with patriarchal government structures has made Fijian women have few opportunities to participate in the decision making.

Fijian population is heavily dependent on inshore fisheries for subsistence and local economic needs. Women and men are both involved in fisheries, but with gendered divisions of labor. Women and men fulfill different roles, use different types of equipment, and often have different sets of knowledge and experience. Fishing outside of reefs tends to be a domain of men and fishing in the coastal areas and rivers is mainly a women's activity. In addition, men and women often fish for different species and with different types of techniques.[45] In the latest country gender assessment led by FAO, it states that women generally fish with hand lines and collect shellfish, octopus, and freshwater mussels by hand or using rustic tools. The fishing methods used by men include fishing from bridges, hand lines, working from small boats suing nets, wires, or wading with nets. The Secretariat of the Pacific Community (SPC)[46] in 2009 surveyed women's fisheries, finding that women working full-time are involved in fishing,

[39] Republic of Fiji. 2019. Voluntary National Review. Available online at https://sustainabledevelopment.un.org/content/documents/25011Fiji_VNR_2019_final.pdf

[40] UNDP. 2017. The Gender Inequality Index (GII).

[41] the Asian Development Bank. 2015. Fiji: Country Gender Assessment, 2015. Available online at https://www.adb.org/sites/default/files/institutional-document/210826/fiji-cga-2015.pdf

[42] Asian Development Bank. 2015. Fiji: Country Gender Assessment, 2015. Available online at https://www.adb.org/sites/default/files/institutional-document/210826/fiji-cga-2015.pdf

[43] Government of Fiji, the Department of Town, and the Country Planning website. Planning and Land Tenure. Available online at: www.townplanning.gov.fj/index.php/planning/ planning-issues/land-tenure

[44] Adventist Development and Relief Agency (ADRA). 2019. Community-based gender and food security analysis in Macuata Province, Fiji. Available online at https://reliefweb.int/sites/reliefweb.int/files/resources/2019%20ADRA%20Fiji%20Final%20Gender%20and%20Food%20Security%20Assessment%20report.pdf

[45] FAO. 2019. Country Gender Assessment of Agriculture and the rural sector in Fiji. Available online at http://www.fao.org/3/ca6670en/ca6670en.pdf

[46] SPC. 2009. The participation of women in fishing activities in Fiji. Available online at SPC

marketing, and reselling the catch and usually operate in large markets as Lautoka, Nausori, and Suva. UN Women estimates that 75% to 90% of the market vendors in the Pacific are women.

**Papua New Guinea**. In recent years, the Government of Papua New Guinea has introduced policies to promote gender equality.[47] However, gender equality still a massive challenge in PNG. In 2017, Papua New Guinea ranked 159 out of 160 countries of the Gender Inequality Index.[48] The main challenges focused on: i) access to health care, ii) access to education services, iii) domestic violence, and ii) lack of political representation. In PNG, culturally embedded patriarchal norms still represent gender constraints that prevent women from participating in political life, decisions making structures, and other leadership spaces.

Fisheries are the main contributor to household subsistence and livelihoods in PNG, making this industry the major contributor to the country's overall economy. Men and women participate in the sector actively but in different ways. Men engage in fishing for income generation, but women are more likely to fish for family meals. Women tend to have lower catches because they stop fishing once they have enough to feed their families or to exchange. Women play an essential role in selling in local markets, in fish processing, and in collecting seafood in coastal areas.[49]

Despite the strong matrilineal culture of PNG, men are perceived as the household heads and are, in the end, the primary decision-makers. Even though women are likely to have access to land, they have limited control, due to the traditional governance systems, which determine decisions about its use. The combination of a lack of land ownership and decision making for resource management puts PNG women in a disadvantaged position regarding economy autonomy and access to financial services.[50]

Papua New Guinea is vulnerable to several hazards, including floods, droughts, earthquakes, volcanic activity, tsunamis, and sea-level rise. Some of these are expected to increase in frequency, magnitude, and intensity due to climate change.[51] Nonetheless, there is a limited analysis of the gender-differentiated impacts of climate change in Papua New Guinea. Women are more exposed to the consequences of climate change and natural disasters because of the stable social and cultural structures that place women in disadvantaged positions.[52]

**The proposed project will promote gender equality and the empowerment of women in several ways**. Activities will be designed to take into account the context of these two countries and to address key gender imbalances that relate to the project: i) the majority of market vendors in the Pacific are women; ii) understanding the gendered division of labor iii) lack of participation in the decision making for the management of resources, and iv) lack of access to land ownership for women. This project has a training output, and the project team will seek to ensure the inclusion and involvement of women from each selected community. This will be assisted by the project's use of the model of Community

[47] SPC. 2012. A stocktake of the gender mainstreaming capacity of Pacific Island Governments, Papua New Guinea. Available online at SPC

[48] UNDP.2017. Human Development Reports. Available online at http://hdr.undp.org/en/composite/GII

[49] FAO. 2019. Country Gender Assessment of Agriculture and the rural sector in PNG. Available online at https://reliefweb.int/sites/reliefweb.int/files/resources/ca6308en.pdf

[50] FAO. 2019. Country Gender Assessment of Agriculture and the rural sector in PNG. Available online at https://reliefweb.int/sites/reliefweb.int/files/resources/ca6308en.pdf

[51] World Bank. 2018. Papua New Guinea. Available online at https://climateknowledgeportal.worldbank.org/country/papua-new-guinea/vulnerability

[52] FAO. 2019. Country Gender Assessment of Agriculture and the rural sector in PNG. Available online at https://reliefweb.int/sites/reliefweb.int/files/resources/ca6308en.pdf

Facilitators that operates with one male and one female representative per community. This, and other proactive measures to be determined during the Gender Action Plan in project development, will help with securing 50% of women trainers and aiming for 50% female trainees. The gender analysis and action plan developed in the project development phase will be used in project implementation to influence the development of the financial products to be proactively gender inclusive. Overall, gender issues will be included in the different outcomes, outputs, and activities of the project, and that will be identified in the gender action plan. This analysis and action plan will be used to refine the activities further and to develop gender-sensitive indicators for the proposed project. The GEF policy on gender equality will be applied throughout the development and implementation of the proposed project.

## 2.6 Safeguards

The project will comply with WWF's Environmental and Social Safeguards Framework (ESSF) as outlined in the Environmental and Social Safeguards Integrated Policies and Procedures.

Environmental and social risks are low as the Project is focused solely on Technical Assistance activities – developing and deploying financial products for climate resilience, improving financial literacy for target communities in Fiji and PNG, and will explore tying financial products to incentives and payouts for improved coastal ecosystem management. Therefore, this Project has been categorized as a 'C' and no safeguards mitigation plans or measures were developed for this project.

## 2.7 Monitoring & Evaluation

The project Monitoring and Evaluation Plan has been developed by Willis Towers Watson and WWF Pacific.

The Project will be monitored through the Results Framework (see Appendix 3: GEF Results Framework). The Results Framework includes 1-2 indicators per Outcome. The baseline has been completed for each indicator along with feasible targets, set annually where relevant. A methodology for measuring indicator targets is provided. Indicator targets are Specific, Measurable, Achievable, Relevant, and Time-bound (SMART), and disaggregated by sex where applicable. Component 3 of the Results Framework is dedicated to M&E, knowledge sharing and coordination.

The project will report against relevant indicators in the LDCF/SCCF results framework to provide a portfolio level understanding of progress towards the GEF Global Environmental Benefits.

The Project Manager will be responsible for gathering M&E data for the annual results framework tracking. This includes (i) gathering information from WTW technical staff on the progress of financial products against results framework indicators, and (ii) gathering information from WWF Pacific, which will be responsible for monitoring community-level indicators (e.g. financial literacy, # community beneficiaries).

Table 2 provides a summary of project reports.

**Table 2** Project Reports

| **M&E/ Reporting Document** | **How the document will be used** | **Timeframe** | **Responsible** |
|---|---|---|---|
| Inception Report | • Summarize decisions made during inception workshop, including changes | Within three months of inception workshop | WTW Senior Director |

| | | | |
|---|---|---|---|
| | to project design, budget, Results Framework, etc. | | |
| Quarterly Financial Reports | ● Assess financial progress and management. | Every three months | PMU Project Manager, with co-financed F&A support |
| Annual Work Plan and Budget (AWP&B) | ● Plan activities and budget in advance of each project year | Annual | PMU Project Manager |
| 6 Month Project Progress Report (PPR) | ● Share lessons internally and externally;<br>● Report to the PSC and GEF Agency on the project progress. | After first 6 months | PMU Project Manager |
| 12 month Project Progress Report (PPR) with Results Framework and workplan tracking | ● Inform management decisions and drafting of annual workplan and budget;<br>● Share lessons internally and externally;<br>● Report to the PSC and GEF Agency on the project progress. | After first 12 months | PMU Project Manager |
| Project Closeout Report | ● Based on the format of the PPR | Project technical close | PMU Project Manager |
| Terminal Project Evaluation Report | ● External summative evaluation of the overall project;<br>● Recommendations for GEF and those designing related projects. | Before project completion | External expert or organization |

An independent terminal evaluation has been budgeted in the project and will adhere to WWF and GEF guidelines and policies. The Terminal Evaluation will be completed before the official close of the project. The evaluation provides an opportunity for sharing lessons and best practices for future projects. The Operational Focal Points will be briefed and debriefed before and after the evaluation(s) and will have an opportunity to comment on the draft and final report.

An annual reflection workshop will be hosted by the PMU (virtually or in-person) to review project progress and challenges to date, taking into account results framework tracking, work plan tracking, and stakeholder feedback to review project strategies, risks and the theory of change (ToC). The results of this workshop will inform project decision making (i.e., refining the ToC, informing PPRs and AWP&Bs).

## 2.8 Budget

The total cost of the project is USD 8,426,078 for three years. This is financed through a GEF grant of USD 1,005,046 and USD 7,330,578 in co-financing, as well as USD 90,454 in agency fees. The actual realization of project co-financing will be monitored during the project implementation and the terminal evaluation process and will be reported to the GEF. See Appendix 7: Overview Budget Table for the overall budget.

**Sub-grants**

One subgrant of USD 210,096 will be made to WWF Pacific for the WWF offices in Fiji and Papua New Guinea to execute the following activities:

- Organize and facilitate the community consultations to identify climate risks and solutions (output 1.1.1);
- Provide direct inputs, review and translation of the manual and training materials (output 1.2.1) to ensure the materials are culturally appropriate and in local language;
- Organize and facilitate the training of Community Facilitators (output 1.2.2), and the Community Facilitators training of the selected communities on the financial products developed under component 2 (output 1.2.3);
- Provide—in partnership with the Department of Environment (Fiji) and Ministry of Fisheries (Fiji) in Fiji and relevant government ministries in PNG—relationship facilitation between WTW and the selected project communities and partners in Fiji and PNG, as well as project updates in collaboration with WTW, across both components 1 and 2;
- Recruit consultant(s) or third party experts to undertake analysis of the ecosystem stewardship incentive approaches outlined in component 2;
- Provide direct inputs and engagement with governments, private sector, and civil society in Fiji and PNG for the mobilization of short-term premium support for the "proof of concept" insurance program (Output 2.2.1); and
- Inputs to Results Framework, technical and financial reporting, and communication products (outcome 3.1)

**International Consultant(s)**

An Independent consultant will be contracted to undertake the terminal evaluation of the project. USD 25,000 has been budgeted for this.

**Staff costs**

Staff costs represent a significant portion of the budget at USD $697,500 (69% of total GEF project budget; WTW will co-finance an additional $1,313,620 to cover staff time), as all technical project work, apart from that identified above as being fulfilled by WWF Pacific, will be delivered by WTW experts who are internationally leading experts in insurance product and program innovation, design, and implementation. WTW will assign in-house capacity—individuals with a proven track record of relevant and successful project delivery—to undertake the technical responsibilities necessary to develop the financial products and program. Technical positions include:

- Senior director, responsible for overall project oversight and delivery (USD 200,000);
- Disaster risk financing and insurance subject-matter expert (USD 240,500);
- Risk data and modelling technical expert (USD 78,000); and
- Risk financing and insurance analyst (USD 109,500).

Roles may be delivered by more than one appropriately qualified individual. The expert roles will necessarily be delivered by senior and specialist WTW experts; given the development nature of this work, rates will be heavily discounted (recognized in co-financing) and significantly lower than rates awarded by public tender for similar projects and team make-up.

These positions are budgeted across project outcomes, as all outputs contribute to the delivery of the financial products and insurance program.

The PMU will consist of one Project Manager at an average of between 10% and 20% FTE over the life of the project, for which USD 70,000 is budgeted. Finance and Administration support for the Project Manager will be provided by WTW operational staff and co-financed by WTW.

**Trainings, Workshops, Meetings and Travel**
Three trips are planned for two WTW staff to visit PNG and Fiji and host workshops, meetings, and consultations, the information of which will feed into the financial product and program design and premium financing strategy. Travel costs include flight tickets and associated travel expenses (ground transportation and per diems for accommodation and meals), totaling USD 53,850.

WTW will host workshops in Fiji and PNG, taking place during the three trips above. USD 1,200 has been budgeted for each of the following workshops:

- Initial private and public sector stakeholder consultations workshop;
- Funder workshop (with donors and government) on potential blended finance arrangements / premium aggregation mechanism(s); and
- Final program sustainability and project close workshop.

**Operating Costs**
Operating Costs consist of an independent financial audit at the end of the project, totaling USD 15,000.

**Monitoring and Evaluation**
Monitoring and Evaluation has been budgeted at $50,000 (5% of total project budget). Monitoring and Evaluation costs include:

- Terminal Evaluation (mentioned above under International Consultant(s)): USD 25,000.
- A portion of the project manager's time has been budgeted under M&E for the roles and responsibilities associated with technical and financial reporting ($18,000).
- A sub-grant of $7,000 will be provided to WWF Pacific to support reporting requirements and responsibilities for local monitoring against the results framework.

See M&E plan in Section 2.7.

**PMC**
PMC has been budgeted at $77,000 (8% of total project budget). PMC includes the portion of the budget for the PMU Project Manager ($52,000), the financial audit ($15,000), and a portion of the WWF Pacific sub-grant for project management ($10,000).

**Co-financing**
$7,330,578 has been committed in co-financing, details are provided in Table 5 **Committed co-financing**Table , below.

**Table 5** Committed co-financing

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount ($) |
|---|---|---|---|---|
| GEF Agency | WWF US | In-kind | Recurrent expenditure | 126,605 |
| CSO | WWF Pacific | In-kind | Recurrent expenditure | 150,000 |
| Private Sector | Willis Towers Watson | In-kind | Recurrent expenditure | 3,816,320 |

| | | | | |
|---|---|---|---|---|
| CSO | ORRAA | Grant | Investment mobilized | 2,128,589 |
| CSO | ORRAA | In-kind | Investment mobilized | 1,109,064 |
| **Total Co-financing** | | | | **7,330,578** |

## SECTION 3: GEF ALIGNMENT AND JUSTIFICATION

### 3.1 Additional Cost Reasoning and Adaptation Benefits

The project will build off a baseline of private sector, government, and NGO approaches to improve the resilience of small-scale coastal fishers to the impacts of climate change. This baseline includes:

- Ongoing efforts to ensure sustainable coastal management and community-based fisheries management in Fiji and PNG
- Strong community engagement, including support on financial literacy, fisheries management, and disaster risk reduction
- Existing climate risk analytics and insurance markets in the region, and
- Ongoing insurance risk initiatives, including on disaster risk finance to yield community adaptation benefits.

GEF finance allows the project to undertake new strategies to:

- Build an enabling environment for *ex ante* risk financing that increase community resilience and adaptation – this includes identifying adaptation and resilience solutions and improving the financial literacy of communities to engage with climate resilient financial products, and
- Develop financial products that address specific climate risks to coastal communities and deploy these products. The project will ensure sustainability through a strategy for sustainable sourcing of insurance premiums.

This baseline and additional proposed strategies will provide additional adaptation benefits above the business-as-usual scenario through two main areas:

1. In the case of an extreme climate event, the financial products developed through the project will provide resources to communities to recover.[53] This increases community resilience to climate shock events.
2. The project will explore incentives and payouts to support communities implement better ecosystem management approaches. Improved fisheries management is expected to lead to more resilient ecosystems, which in turn provides long-term benefits (e.g. food sources) for communities.

Overall adaptation Benefits include:

**Table 6** Climate Change Adaptation core indicators

[53] The products will be accessible to communities by the end of the project, however actual uptake cannot be guaranteed.

| Level | LDCF/SCCF results framework | Project's adaptation benefits |
|---|---|---|
| Goal | To increase resilience to the adverse impacts of climate change and variability in vulnerable developing countries and support their efforts to build adaptive capacity | |
| Core Indicator 1 | Total number of direct beneficiaries (gender disaggregated) | Total: 7,500 |
| | | Male: 3,750 |
| | | Female: 3,750 |
| Core Indicator 2 | Area of land managed for climate resilience (ha) | 0 |
| Core Indicator 3 | Total number of policies/plans that will mainstream climate resilience | 0 |
| Core Indicator 4 | Total number of people trained | Total: 7,500 |
| | | Male: 3,750 |
| | | Female: 3,750 |

## 3.2 Alignment with GEF Focal Area

This project is closely aligned with the GEF Climate Change Adaptation Focal Area, specifically *Objective CCA-1: Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation.*

The project will develop financial products for coastal communities in Fiji and PNG to increase their resilience against shock climate events such as cyclones. The project will achieve this by developing targeted insurance products that provide solutions to specific climate impacts facing the target communities, provide financial literacy to encourage uptake within these same communities, and deploy the financial products. Overall, this is expected to reduce the vulnerability and increase the resilience of coastal communities in Fiji and PNG to climate change impacts.

## 3.3 Socioeconomic Benefits

**Risk awareness and understanding within selected communities** – Component 1 will provide local communities, enterprises, and governments with risk assessment metrics they can use to understand current and future climate risks, which will aid planning and adaptation strategies. The project will build the communities' capacity to understand and use these metrics in a meaningful way and underpin structured risk sharing arrangements.

**Risk quantification** – The development of an insurance product requires that the risk is measured and quantified, since technical insurance pricing is based on the probability of a certain event happening. Putting this price tag on risks by analyzing the underlying exposure and vulnerability means that the value of the insurance process goes beyond the coverage itself. That price signal drives more informed choices about where and how communities may site and design infrastructure, housing, facilities, and

even (alternative) livelihood activities. Insurance does not create the risk, but it does provide a more precise and actionable understanding of the full cost of climate risk.

**Coverage** – Coverage of communities against climate risk is extremely valuable as a financial adaptation tool. Communities will have liquidity to respond to climate shock events, which allows for the development of contingency plans with predictable, pre-agreed funds arranged for implementation and event response.

**A new market** – This project will result in the creation of a climate micro-insurance market (through the design of the products and the implementation of risk transfer / actual placement), which facilitates access of communities to insurance markets that previously didn't cover climate risks, enabling these communities (and scalable to additional communities) to leverage private sector risk capital to build resilience.

**Incentives for ecosystem management** – Concessional access to financial adaptation tools may be provided as an incentive for sustainable behaviors / adherence to management policies. This contributes to a virtuous cycle of more resilient communities and more resilient ecosystems which, as a whole, will support adaptation to climate change.

## 3.4 Risks and proposed Mitigation Measures

**Table 7** Project Risk Assessment and Mitigation Plan

| Risk | Risk Level | Project Mitigation |
|---|---|---|
| Communities lack interest in engagement to identify adaptation solutions and related financial products | Low | Communities were engaged during project development and expressed interest in being involved in the project. In addition, the project will work with communities that have already been engaged in financial training from WWF, through SMEs and village saving schemes, so they already have some level of financial literacy and buy in to the project concept. |
| Culturally inappropriate project delivery will hamper relationships with communities, and such relationships and trust are key to project success | Low | Working through local community facilitators and local WWF staff, the project will 1) ensure appropriate community protocols are followed, 2) reduce the amount of staff time that needs to be spent in the field by providing a constant presence in the community, and 3) identify local issues with the team before they become problematic. |
| Insurance scheme developed at the wrong level (individual, community, ward, resource) | Low | In-depth community consultation will be undertaken during project execution to assess the appropriate level for insurance and other financial products. |
| Communities do not ultimately see the value of risk financing; therefore, take-up is limited and the financial products are not mainstreamed for long-term use | Medium/ High | The project will ensure that (1) communities understand the climate risks and the benefits of financial tools to manage these risks – e.g. the economic / business case; and (2) the financial tools will be responding to community needs and targeted to fit the community. The project will include a "proof of concept" phase to encourage initial uptake and demonstrate the value of the products. |
| There is limited interest to finance premiums, both at | Low / Medium | The project will undertake willingness to pay assessments in each target community. Communities may not pay anything |

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|---|---|---|
| the community-level and from government, donors, and other potential premium financiers | | during a "proof of concept" stage. Even after a "proof of concept" stage, the amount communities are willing and able to pay may be low. Assessments undertaken during execution will determine the price of the financial products and what is viable for the financial product to succeed. The gap will be covered by premium financing from other sources, specifically those that are identified during a "risk ownership and responsibility" assessment.<br><br>To mitigate the risk associated with uncertain premium mobilization that results from unclear risk ownership and responsibility (and recognizing that taking on this uncertainty / risk is a key value of the project itself), the project will develop a short term and long-term premium financing strategy. The strategy for long-term sustainable premium financing arrangements will provide a framework for structured risk management and the clarification of risk responsibility and risk sharing between the public and private sectors at the international, national, and community levels, to ensure long-term sustainability of the financial products. |
| (1) Premium financing isn't mobilized, or (2) conditions aren't in place to incentivize improved ecosystem management or to provide payouts for improved ecosystem management | Medium/ High | A key innovative aspect of this project is potentially providing concessional access to the insurance products in exchange for improved fishing / management practices, or to provide pay-outs for ecosystem management. This requires willingness and interest from funders to cover associated costs.<br><br>In addition, the project needs to have a strong baseline of existing plans / policies in place on which to build such an incentive scheme. It is beyond the scope (and funding) of this project to provide training on ecosystem management, develop new plans (or improve plans) related to ecosystem management, or monitor such plans to ensure the conditions are being met.<br><br>The project will assess entry points and engage a range of stakeholders to identify where the project may offer concessional community-level insurance as a reward for behavioral shifts to sustainable ecosystem management practices and potential donors to cover the costs. |
| Local insurers lack interest or capacity to provide a product as primary carrier and administrator | Low | The project will identify the best governance option for product implementation. This could include local insurer participation, where the local insurer (1) acts as a fronting insurer, passing all risk-taking to international risk markets or (2) takes some risk themselves. Depending on the regulatory view, it is possible that this program could be placed directly on international markets. Additionally, it is possible that PCRIC could play a role either as a primary insurer or as a risk-taker. |

| | | |
|---|---|---|
| | | The project will engage local carriers/insurers to ensure the project design and roll-out strategy takes into account the above risk. In addition, the project will support the local insurers' ability to provide the product through technical materials that underwrite the products. |
| No insurance markets want to take the risk at an acceptable price | Low | By using the parametric form of insurance, and by utilizing primary data sources for hazards, which are known to be acceptable to global climate risk transfer markets, the project will identify appropriate technical pricing. The scale of the project may be a barrier to achieving best possible pricing because (1) the administrative costs for the local insurer, associated with product distribution and policy management, will be relatively higher the smaller the scale of the program. (2) Relatively few markets will be interested in underwriting small volumes of risk, particularly if there are no existing relationships between domestic insurer(s) and the global reinsurance market.<br><br>Best pricing is therefore likely to be achieved by using a domestic insurer already connected to the global risk markets and / or involving the regional risk pool, PCRIC, in the transaction to bring scale and regional diversification. |
| Legal and regulatory barriers | Low | Local legal and regulatory infrastructure in Fiji and PNG should be sufficient to enable this product to be made available relatively quickly.<br><br>The project will engage regulators from an early stage to familiarize them with the proposed financial products. Insurance regulation in Fiji is undertaken by the Reserve Bank of Fiji (RBF), which has been very supportive of implementing innovative parametric insurance coverage in Fiji. Insurance regulation in PNG is undertaken by the Office of the Insurance Commissioner (OIC); as the legal system is based on English and Australian common law, standard legal concepts related to insurance are recognized and wordings are often derived from the UK and Australia. |
| A natural (earthquake, tsunami) or anthropogenic (mine spill) event outside the scope of insurance policy occurs and impacts policy uptake | Medium | The project will clearly identify what events are to be covered by the products. |

### *COVID-19 Risk Analysis*

**Table 8** Project COVID-19 Risk assessment

| Risk category | Potential Risk | Mitigations and Plans |
|---|---|---|

| | | |
|---|---|---|
| Availability of technical expertise and capacity and changes in timelines | It may be difficult to access government staff while they are focused on COVID-19 containment or recovery, affecting connectivity and availability of government. | The project will follow government protocols for engagement. Key government partners are represented on the Project Steering Committee, and therefore will be kept abreast of the project regularly. Relevant government staff will be engaged by email or through other means. The insurance technical assistance will be provided by WTW who has already been successfully working on this virtually. The risk is also mitigated through WWF Staff working with communities, the government and provincial governments as a conduit for WTW. |
| Stakeholder engagement process | The project involves continued consultations with government, communities, private sector member and CSOs in order to develop and implement successful financial products. While COVID-19 remains a threat in the project areas, it may cause challenges and alterations in community-level and in-person consultations and workshops. | Consultations will only be undertaken in person if it complies to national to local government guidelines and WWF national office guidelines. COVID protocol will be followed, such as suppling sanitizer and masks, and meeting with group sizes per the limits set by government. As much as possible, remote connections will be sought.<br>In all cases, continued attention will be given to ensuring the voices of IP, women, youth, and any underrepresented community members. |
| Future risk of similar crises | It is not anticipated that this project will have adverse impacts that might contribute to future pandemics, for example, there will be no focus on increasing the human-wildlife interface or any actions that cause degradation. | This project will not involve on-the-ground activities that will affect biodiversity or human-wildlife interactions, although the project team will be mindful of this during implementation. |

**COVID-19 Opportunity Analysis**

**Table 9** COVID-19 Opportunity, potential and planning.

| **Opportunity Category** | **Potential and plans** |
|---|---|
| Can the project do more to protect and restore natural systems and their ecological functionality? | The project will enhance the ability of communities to respond to natural disasters and may include incentives or pay-outs to promote sustainable fisheries/ecosystem management. |
| Can the project include a focus on production landscapes and land use practices within them to decrease the risk of human/nature conflicts? | The project focuses on coastal communities, many of which rely on fisheries for their livelihoods. The project may consider using sugarcane certification in PNG to help cover premiums and incentivizing best agricultural practices. |

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| Can the project promote circular solutions to reduce unsustainable resource extraction and environmental degradation? | The project will develop insurance products to help make communities more resilient to climate impacts, while incentivizing better fisheries management. While the project will encourage environmental stewardship and promote sustainable resource extraction, there are limited opportunities for circular solutions within this project. |
| Can the project innovate in climate change mitigation and engaging with the private sector? | This project is focused on climate adaptation rather than climate mitigation.<br><br>The project will closely engage the private sector throughout the development of the financial products and program, including engagement with micro-insurers, banks, international markets and local insurers. |

**Table 10** Climate Risk, Status and Impacts

| Climate Risk and Current Status | Impacts from Climate Risk | How is the Project Addressing this? |
|---|---|---|
| **Location: Fiji- Tavua District, Qoliqoli Cokovata** | | |
| **Flooding** and **coastal inundation** in Fiji has become more frequent and is usually triggered by extreme weather events, including La Nina and El Nino events. | Fiji's 2017 Climate Vulnerability Assessment estimated that average losses due to extreme flooding events and damaging storms were around $500 million annually. Floods can damage infrastructure, modes of transportation, methods of communication and availability of natural resources such as freshwater and fish stocks. | This project will expand upon the understanding of climate risks in the region through data identification, collection, and validation (including hazard, exposure, and vulnerability data, e.g. building of databases of historic shock events and impact data, climate projections, land-use data, and key asset/ household geolocation data). Understanding the climactic risks in the region is the first step to addressing the impacts.<br><br>The project will develop financial products to help communities adapt to extreme climate change events (cyclones, flooding).<br><br>Healthier reefs help protect Fijians against climate risk events physically (as reefs protect coastal communities by weakening storm surges and wave damage) and economically (because communities depend on coastal resources for their livelihoods). |
| **Sea level rise** has affected Fiji more than most of the globe. The average global sea level rise is 2.8-3.6mm annually, whereas Fiji's annual average increase has been approximately 6mm per year since 1993. | Within the provinces around the Great Sea Reef in Fiji, 40% of the population directly depend on the coastal reef system for protection against climate risk events. Sea-Level rise and other climate change events disrupt the natural processes and activities of reef systems and tidal flats. These areas provide habitats for fisheries and are critical for the Fijians that rely on them for their livelihoods. | |
| Rising **temperatures** in Fiji, demonstrated in daily maximum temperatures, have increased an average of .1°C per decade for the past 50 years. | Warming temperatures have led to a warming of ocean water temperatures and coral bleaching events. The coastal communities are heavily dependent on the reefs, but bleaching events affect the availability of fish within the reef systems, therefore impacting livelihoods. | |
| **Tropical Cyclones and extreme weather events**- Fiji experiences frequent tropical cyclones with damaging winds, rains, and storm surge. Tropical cyclones Ami, Evan, and Winston in 2003, 2012, and 2016 all caused widespread damage and numerous fatalities. | In 2020, Fiji was hit by Cyclone Harold and Cyclone Yasa (both Category 5), in 2021 Cyclone Ana struck. The latter two cyclones hit Vanua Levu (where the project focuses), with Yasa resulting in flooding, buildings being destroyed, deaths and injuries, and hundreds of millions of dollars in damages. These cyclones result in increased pressure on reefs as communities seek food security in the direct aftermath of such damages. | |
| **Fluctuations in Precipitation** have been observed in Fiji, with rainfall amounts varying drastically from year to year. Over | In Fiji, changes in long-term precipitation and soil moisture will alter groundwater recharge rates as well as create a higher demand for groundwater resources during periods of less precipitation. Fluctuations in precipitation can also affect human health and welfare. Extreme rainfall | |

| | | |
|---|---|---|
| the past 50 years, the overall change in precipitation has been around 7.3%. | events could also exceed the capacity of storm-water drainage networks, overflow dams and cause flooding and water resource contamination. | |
| **Climate Risk and Current Status** | **Impacts from Climate Risk** | **How is the Project Addressing this?** |
| **Location: Papua New Guinea - Madang Province in the Momase Region** | | |
| **Coastal Flooding** has been a climate risk in Papua New Guinea for decades, particularly during the monsoons. As rainfall fluctuations intensify and tropical cyclones become more frequent, the flooding events are projected to intensify as well. | Flooding is a much greater risk in more populated areas with more infrastructure such as Madang Province in the Momase region. The Madang province is at high risk to infrastructure damage, with around 800km of roads and almost 100 bridges. Flooding also causes heavy coastal erosion and negatively impacts agricultural productivity. Damages to natural ecosystems such as mangroves and coral reefs when silt and sediments are brought in also occurs. Coastal flooding leads to human health risks as there is an increase in water-borne diseases. | The project will continue to monitor and gather scientific data surrounding climate change in the region as the development, pricing and roll-out of parametric insurance options heavily rely on available accurate climate data. As the project conducts assessments and analyzes the risk for the target locations in Papua New Guinea, considerations will also be made for the inland agricultural areas of Papua New Guinea, within the target area, that are also affected by climate related shock.<br><br>The project will develop financial products to help communities adapt to extreme climate change events (cyclones, flooding). |
| **Sea Level Rise:** By 2030, sea level in PNG is expected to rise by 4-15 cm. | Sea level rise can exacerbate the impacts of extreme weather events, especially storm surges and **coastal flooding**. Sea level rise also contributes to coastal erosion and saltwater intrusion into freshwater sources. Extreme cases of sea level rise may lead to the displacement of communities. | |
| **Drought/ annual dry-spell length:** The risk of seasonal drought is projected to decrease because of the projected increases in rainfall. However, the length of dry spells (a consecutive period of dry days) is expected to increase | In 2015, there was a drought in PNG that affected over 2.5 million people (EM-DAT). Longer drought periods are projected to negatively affect crop production and crop cycle timing as well as the availability communities have to fresh drinking water. Sensitivity to drought is more extreme inland in agricultural areas rather than in the coastal communities. | |
| **Tropical Cyclones and extreme weather events**- Although globally it is projected that cyclones will decrease, the intensity of these events, and the impacts felt by them, will increase. The increase in cyclones and extreme weather events can be tied to the increase in El Nino and La Nina events. | In Papua New Guinea, fatalities as a result of tropical cyclones and extreme weather event over the past 25 years have exceed 3,000 individuals, with the majority of fatalities caused by tsunamis and wave surges. Papua New Guinea is less susceptible to cyclones than Fiji, but does experience landslides and storms that cause extreme winds and El Nino events. Landslides are exacerbated by erosion and flooding, that result from storm surges. | |

| | | |
|---|---|---|
| **Increase of precipitation intensity** and **variability** is expected. No significant change in mean or extreme wind speed is projected. | More extreme rainfall is expected, likely contributing to increased frequency of inland **flooding**. Fluctuations in precipitation can also affect human health, welfare, occurrence of diseases and pests and access to freshwater and natural resources. Extreme precipitation events could lead to sedimentation and siltation, as well as pollution of groundwater supply and of the reef systems. | |
| **Temperature fluctuation:** PNG is projected to get significantly hotter in the coming decades with a current warming rate of about 0.1 °C/decade. By 2030, the temperature is projected to continue to increase, with a projected warming of 0.4-1 °C. By 2050, a 1.1 – 1.9 °C warming is projected. | The increases in the average daily temperatures over the next 10-30 years will result in more frequent and extreme hot days. Hotter days are projected to have a negative impact on human health, crop production and biodiversity in the Madang province and surrounding coastal areas. Extreme temperature increases have also been associated with an increase in disease outbreak and coral reef bleaching events. | |

* See climate risk screening **here** for further information on future climate projects for Fiji and Papua New Guinea. Collective references are provided in the footnote below.[54]

[54] References for climate risk screening:

- Harris et al., 2014: Updated high-resolution grids of monthly climatic observations – CRU TS3.10: The Climatic Research Unit (CRU) Time Series (TS) Version 3.10 Dataset, Int. J. Climatology, 34(3), 623-642, doi: 10.1002/joc3711; updated from previous version of CRU TS3.xx
- Republic of Fiji : second national communication to the United Nations Framework Convention on Climate Change. - Suva, Fiji : Ministry of Foreign Affairs, 2014.
- Federated states of Micronesia, Second National Communication to the United Nations Framework Convention on Climate Change, 2014
- https://www.theguardian.com/world/2020/dec/18/cyclone-yasa-two-die-in-fiji-as-storm-hits-second-largest-islan
- Papua New Guinea Initial National Communication under the United Nations Convention on Climate Change, 2000
- Tom D'Haeyer, Julie Deleu, Edith Maroy, Danitza Salazar, Georg Petersen, Pendley, Michael Allen, Bonie Belonio, 2014: Climate Risk, Vulnerability and Needs Assessment for Morobe, Madang, East Sepik, Northern and New Ireland Provinces Of Papua New Guinea. Ref. No. (PNG/AF/VNA/2014).
- Climate Change in the Pacific: Scientific Assessment and New Research | Volume 2: Country Reports; Chapter 11: Papua New Guinea
- "Reducing the Risk of Disasters and Climate Variability in the Pacific Islands: PAPUA NEW GUINEA Country Assessment." World Bank, Global Disaster Risk Reduction Facility and South Pacific Applied Geoscience Commission.

## 3.5 Consistency with National Priorities or Plans

The project is consistent with the following national strategies, plans, reports and assessments under relevant conventions:

**Table 11** Consistency with National Priorities

| Country | Title | Relevance to Project | Reference |
|---|---|---|---|
| Fiji | Voluntary National Review Fiji's Progress in the Implementation of the SDG's | Fiji's VNR is a comprehensive review of the implementation of the transformative 2030 Agenda and its 17 SDGs. As Fiji's first-ever national review of this nature, the Fijian government has made a special effort to ensure inclusivity throughout the exercise, underpinned by a commitment to leaving no Fijian behind.<br><br>The project is aligned to Fiji's implementation of the SDGs as it continues to encourage government to work with NGOs and Private enterprises to help advance socio-economic development by improving financial literacy of Fijians. | Government of Fiji / 2019 |
| Fiji | 5 year & 20 year National Development Plan | The 20-Year Development Plan provides the forward-looking vision for "Transforming Fiji" towards an even more progressive, vibrant and inclusive society. It outlines a framework that encompasses strategic policy maneuvers, new approaches to development and the aspirations of all Fijians. The Fiji NDP highlights the underlying theme of inclusive socio-economic development, which ties into this project as communities, and especially women, will gain financial literacy and benefit from the financial products. | Ministry of Economy, Republic of Fiji / 2017 |
| Fiji | National Adaptation Plan A pathway towards climate resilience | The NAP provides a clear vision for adaptation and identifies priorities to be addressed in partnership with academic institutions, development partners, and private sector entities over the next five years, and beyond. It addresses vulnerabilities identified by the Climate Vulnerability Assessment and adopts the values and principles of the NAP Framework. The Fiji NAP aims to improve climate change information management and increase Fijian's ability to predict and respond to climate events. This project will help achieve these goals through the Community Facilitator (CF) model, educating both male and female Fijians on disaster risk reduction and climate change resilience. | Government of the Republic of Fiji/ 2018 |
| Fiji | Fiji NDC Implementation Roadmap 2017-2030 | Fiji's current Nationally Determined Contribution (NDC) is specific to the energy sector both in terms of a GHG (greenhouse gas) baseline, with 2013 as the reference year, and in terms of potential mitigation actions. The goal of the NDC Implementation Roadmap 2017-2030 is to provide a temporal pathway with concrete mitigation actions and financing needs to achieve the transformational change called for under the NDC. The NDC Roadmap calls for new methods of financing which this project will introduce to Fijian communities to support adaptation in the form of risk mitigation and insurance products. | Fiji's Ministry of Economy with support from the Global Green Growth Institute / 2018 |

| | | | |
|---|---|---|---|
| Fiji | Climate Vulnerability Assessment | The Fiji Climate Vulnerability Assessment was implemented with the objective to carry out a climate vulnerability assessment for Fiji and develop recommendations to inform Fiji's investment planning process. The initiative helped inform the national development priorities, and its investment and development plan for the next 5, 10 and 20 years. The project might also strengthen Fiji's Nationally Determined Contribution (NDC). The Climate Vulnerability Assessment for Fiji highlights the likely increase in extreme weather events, which lead to a large loss in income and assets for vulnerable communities. This project will increase the ability to deal with extreme weather events and recover financially with the help of long-term sustainable financing. | Government of the Republic of Fiji, 2017.<br><br>Support of World Bank Group and GFDRR. |
| Fiji | Fiji's Intended Nationally Determined Contribution | Fiji submitted their Intended nationally determined contributions (INDC) to the UNFCCC Secretariat on the 5th of November 2015. No further revisions were undertaken, and the same document was endorsed and submitted as the First nationally determined contributions on 22nd April 2016. Within the Adaptation goals in Fiji's NDCs are several key actions that this project will support such as increasing the understanding of impacts of climate change, help governments build resilience, and explore climate change financing modalities. | Government of the Republic of Fiji Islands, 2015. |
| Fiji | National Biodiversity Strategy and Action Plan for Fiji 2017–2024 | The Fiji National Biodiversity Strategy and Action Plan 2020–2025 (NBSAP) is a national policy document recognized under the Environment Act 2005. The NBSAP is also a requirement for all parties to the Convention on Biological Diversity and its 2020 Aichi Targets. This policy document prioritizes conserving biodiversity which will be achieved through this project by exploring incentives to reduce pressures on inshore fisheries and reef systems rich in biodiversity. | Government of Fiji, 2017 |
| Fiji | Environment and Climate Adaptation Levy (ECAL) | The Government of Fiji's source of tax revenue dedicated to climate resilience, which is a consortium of taxes on prescribed services, items and income. The ECAL is mandated to fund work across Fiji to support economic, community, and infrastructure adaptation to the worsening impacts of climate change, as well as protect the natural environment and reduce Fiji's carbon footprint. | Government of Fiji, 2019 |
| PNG | National Climate Compatible Development Management Policy | The National Climate Compatible Development Management Policy (NCCDMP) is the Government's blueprint to achieve the vision in building a climate-resilient and carbon neutral pathway through sustainable economic development for Papua New Guinea.<br><br>This policy emphasizes enhancing capacity in understanding climate change as well as targeting communities and sectors with the highest risk. This project targets sectors that are most vulnerable (coastal communities) and will enhance community understanding of climate change through education and outreach. | Papua New Guinea Government / 2014 |

| | | | |
|---|---|---|---|
| PNG | Papua New Guinea Vision 2050 | This document is the new long-term strategy to map out the future direction for Papua New Guinea. Vision 2050 is underpinned by seven Strategic Focus Areas, or pillars:<br>· Human Capital Development, Gender, Youth and People Empowerment;<br>· Wealth Creation;<br>· Institutional Development and Service Delivery;<br>· Security and International Relations;<br>· Environmental Sustainability and Climate Change;<br>· Spiritual, Cultural and Community Development; and<br>· Strategic Planning, Integration and Control.<br><br>The project will help achieve the 2050 vision by supporting community adaptation to climate change impacts. | The National Executive Council of Papua New Guinea / 2009 |
| PNG | Papua New Guinea Development Strategic Plan (DSP) 2010 to 2030 | This long-term development framework is intended to promote and guide PNG onto a path of sustainable economic growth, achieving economic prosperity and a high quality of life for all Papua New Guineans. The PNG DSP embodies the principles of the Constitution of PNG and reinforces the fundamental directives required to advance PNG into a middle-income country by 2030.<br>This project will help achieve the DSP goals of improving and expanding PNG's economy by offering financial products that provide livelihood protection to climate impacts. | Department of National Planning and Monitoring of Papua New Guinea / 2010 |
| PNG | Papua New Guinea Medium Term Development Plan 2011 to 2015 | The Medium-Term Development Plan 2011-2015 (MTDP) is a 5-year rolling development plan providing a clear, accountable plan for investment. It sets the sector strategies, targets, deliverables and their projected estimate cost to implement.<br>Protecting and developing the fisheries sector in PNG is a goal cited in the MTDP. This project will explore incentive mechanisms to reduce pressure on fisheries and encourage community-based fisheries management. | Department of National Planning and Monitoring / 2010 |
| PNG | Papua New Guinea Intended Nationally Determined Contribution (INDC) | PNG is committed to assist in global mitigation efforts, but the country's effort will be contingent on external, adequate and predictable funding being made available. The NDCs include the need to address damage to coral reefs as well as food insecurity – this is being addressed in the project by offering financial products that provide livelihood protection to climate impacts. | Papua New Guinea Government / 2016 |

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| PNG | Fisheries Management Regulation 2016 | Updated regulation of the legal instrument for fisheries management in PNG. | National Fisheries Authority of Papua New Guinea / 2016 |
| PNG | Papua New Guinea National Food Security Policy 2016 to 2025 | The policy sets the medium to long-term direction and signals priority areas to focus resources (financial and human) to build sustainable food security for all Papua New Guineans. This project will increase the adaptive capacity of communities to respond to climate change impacts, and will explore incentives for sustainable fisheries management to improve long-term food security. | Papua New Guinea Government / 2015 |
| PNG | The National Beche de mer Fishery Management Plan / 2003 | Objectives:<br>● To manage the fishery to the maximum economic benefit of Papua New Guinea.<br>● To ensure that the development of the bêche-de-mer fishery benefits coastal communities, particularly customary fishers.<br>● To ensure use of the bêche-de-mer resource is sustainable and that bêche-de-mer fishing has minimal impact on the marine and coastal environment.<br>The project will explore providing reduced premiums for insurance in exchange for e.g. sustainable community fisheries management. | Papua New Guinea Government / 2003 |
| PNG | Papua New Guinea's Strategic Program for Climate Resilience (SPCR) | The overall outcome of the SPCR will be the enhancement of PNG's resilience to climate change through improved access to resources, knowledge, and tools and climate resilient infrastructure at the national, sectoral, district, and community levels.<br>This project will support adaptation and PNG's ability to react and respond to climate events, increasing the resiliency of communities. The project will engage communities directly through village chiefs and public authorities, providing more accessible information to citizens. | Papua New Guinea Government / 2012 |

## 3.6 Innovativeness, Sustainability & Potential for Scaling up

***Innovation***. The proposed project is innovative in several respects. The project will develop the first community-level risk financing product for climate risks, including a technical roll-out plan, a proof of concept, and a roadmap for long-term sustainability. Innovative aspects include:

1. Currently there are no community-level climate insurance products provided in the Pacific. The project will design and deploy a financial product to support communities to pool and manage their risk.
2. A novel blended finance mechanism that identifies the necessary institutional and administrative arrangements, building on a strong business and policy case, for the public and private sectors to share risk at the international, national, and local levels.
3. Insurance mechanisms can offer a unique opportunity to both incentivize best practice and support coastal communities in the event of a climate change event. Whilst this has been piloted in terrestrial developing world contexts, there are few examples in the ocean context.

***Sustainability.*** The project will integrate sustainability into two aspects of the insurance mechanism: the supply side and the demand side.

On the supply side, the project will support the development and deployment of low-cost financial products for coastal communities in Fiji and PNG, and provide the foundation for the long-term implementation of these products by the private sector. The project will provide the technical underwriting necessary to provide insurance at risk-based, actuarially sound, and, therefore, sustainable prices. Engagement with local insurers on the roll-out strategy (including guidance on low-cost product distribution and administration, likely through a mobile phone app) and international reinsurers (and the regional risk pool, PCRIC) on the placement of the risk will embed the insurance in the local and international risk markets. Ultimately, the deployment of the product will embed these tools into private sector operations and allow these actors to administer the financial products into the future.

The project will also build the demand for financial products through the following outputs:

1. Building financial literacy and risk understanding – this will increase understanding of the value of these financial products to communities and ensure long-term buy in from the communities.
2. Providing concessional access to the financial products (through premium subsidy) during a 'proof of concept' phase – based on global experience with index insurance, concessional access at initial launch greatly increases the chances of longer-term take-up, particularly if pay-outs are made across some of the communities during the project implementation phase. Further, an initial 'proof of concept' phase is beneficial to the sustainability of the insurance in the long-term because it allows communities to gain familiarity with insurance as a mechanism, proves the process of administration and product roll-out, and (if a climate event occurs and a pay-out is made) demonstrates the value of insurance.
3. Developing a long-term premium financing strategy – Risk financing proves its value over time. Climate risk responsibility is not straightforward; risk is shared across the public and private sectors at the international, national, and community levels. As the target communities have little disposable income, and they are not necessarily responsible for climate risk financing alone, long-term support for risk financing products will compete with other pressing expenditure needs in the communities and will need to be advocated for at the national and

international levels. Therefore, the project will develop a premium financing strategy to engage potential sources of long-term premium finance, assessing risk ownership and their willingness to pay, and identifying mechanisms which the coastal communities and the governments of Fiji and PNG could employ to raise risk capital to cover their climate risk. The development of this long-term premium financing strategy will support the sustainability and ensure this project offers a strong framework for climate risk management and financing into the future.

***Scaling Up***. The proof of concept established through this project and the lessons learnt can be rapidly scaled to other sites across the Pacific region and globally. The partnership with private sector actors such as WTW support scaling via technical support and enhanced platforms to communicate the work conducted and impacts delivered across the Melanesian region. Most importantly, this project will provide a blueprint for connecting communities to pre-positioned international climate finance to build resilience and a process for establishing more formalized climate risk sharing across the public and private sectors at the international, national, and local levels. As such, success in this project would contribute to a template of locally relevant, globally applicable solutions. Discussions with various levels of Government in PNG suggests this project could be scaled up through incorporation into the Local Level Government Ward Development Planning Process (WDP's). WDP's are integrated planning processes where community members at the individual ward level can prioritize where the finances made available through the central government are prioritized across 12 sectors spanning all aspects of good local government including: policing, education, environment, women, and infrastructure.

## SECTION 4: TECHNICAL APPENDICES

### Appendix 1: Project Map(s) with geo-coordinates


**Figure 5** Map of Project Provinces in Fiji and Papua New Guinea[55]

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**Figure 6 Map of project area in Papua New Guinea: Madang Province**

[55] Map of Melanesia based on the United Nations geoscheme M49 coding classification devised by the United Nations Statistics Division. SVG format

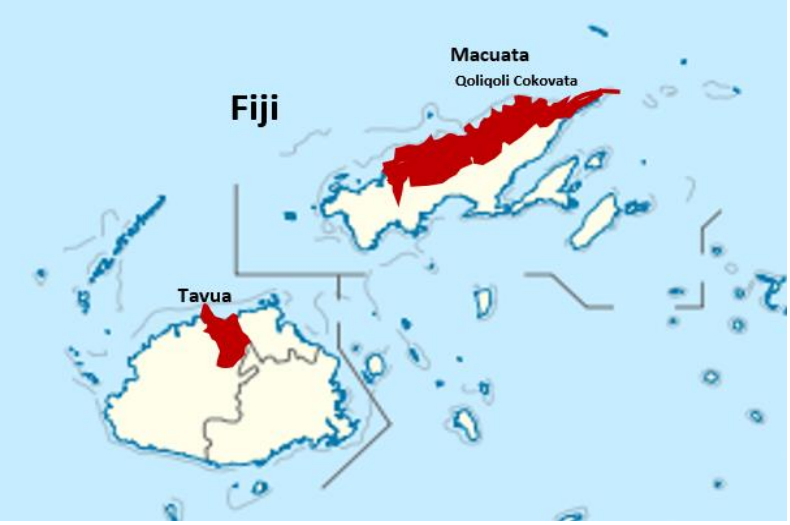


**Figure 7 Map of Project Area, Fiji**[56]

**Project Coordinates:**

**Madang Province Coordinates: 5°10'S 145°20'E**

**Tavua Coordinates: -17.5396° S, 177.9139° E**

**Macuata Coordinates: 16.4865° S, 179.28**

[56] Version 1.2, November 2002. Copyright (C) 2000,2001,2002 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

## Appendix 2: High Level Work Schedule

| Component | Outcome | Output | Activity # | Activities | Timeline *(Y1, Y2, Y3)* |
|---|---|---|---|---|---|
| Component 1: Enabling environment for ex ante risk financing to improve resilience for coastal communities in Tavua District and Qoliqoli Cokovata in Fiji and Madang Province in PNG. | Outcome 1.1 Climate risks, coverage priorities, and risk pooling options identified | Output 1.1.1 Desktop risk assessment and community consultations, surveys, and workshops to identify and prioritize critical climate risks and impacts facing targeted communities and risk pooling options | 1.1.1.1 | Community-specific desktop risk assessment, including community-level data gathering on governance, resource management, financial management, risk management and risk sharing structures, and socioeconomic information | Y1 |
| | | | 1.1.1.2 | Planning and design of engagement with communities, government, and private sector during 2 trips, including identification of data needs and collection strategy | Y1 |
| | | | 1.1.1.3 | Planning and design of community surveys and workshops to identify viable product design characteristics and risk pooling options (i.e. key climate hazards and exposures, policyholders, and use of pay-outs) | Y1 |
| | | | 1.1.1.4 | Community facilitators engaged to implement community surveys and workshops | Y1 |
| | | | 1.1.1.5 | Community insurance demand assessments / willingness to pay surveys designed and implemented through community facilitator networks | Y1 |
| | Outcome 1.2 Improved financial literacy to engage with financial products for climate resilience | Output 1.2.1 Best practice guide (in local language(s), with visuals) and training manual for financial literacy for the products developed in 2.1.1 | 1.2.1.1 | Training materials / manual development, including translations | Y1 |
| | | Output 1.2.2 Community Facilitators trained to deliver 1.2.1 and to strengthen peer to peer financial literacy networks | 1.2.2.1 | Training of trainers for the community facilitator workshops, including direct (virtual) training and development and provision of technical and communication materials / documentation | Y1 |
| | | | 1.2.2.2 | Community facilitator workshops | Y1 |

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| | among vulnerable coastal community members | Output 1.2.3 Financial literacy training on financial products (developed in 2.1.1) in the targeted communities | 1.2.3.1 | Community engagement and training on insurance products | Y1,Y3 |
| | Outcome 1.3 Markets developed in the target geographies to offer financial products for community level climate resilience and adaptation | Output 1.3.1. Assessment of current status and enabling environment for local insurance marketplace | 1.3.1.1 | Insurance market assessment (desktop and initial consultations) | Y1 |
| | | | 1.3.1.2 | Desktop review of insurance enabling environment | Y1 |
| | | Output 1.3.2. Insurance program roll-out plan for local insurers, including guidance on policy administration options and distribution mechanisms (for insurance program developed under Component 2) | 1.3.2.1 | Engagement with local insurers on product administration options and product distribution mechanisms (based on program design in Component 2) | Y2 |
| | | | 1.3.2.2 | Finalization of the program (defined in Component 2) roll-out strategy and plan with local insurance market(s) | Y3 |
| | | Output 1.3.3. Engagement and market information and analytics pack to facilitate reinsurance / retrocession protection for participating market(s), local and international | 1.3.3.1 | Consultations with international re/insurers | Y1/Y2/Y3 |
| | | | 1.3.3.2 | Probabilistic financial loss modelling based on historic and stochastic hazard data and final program design(s) in Component 2 | Y2/Y3 |
| | | | 1.3.3.3 | Preparation of market information and analytics pack | Y3 |
| | | | 1.3.3.4 | Transaction planning | Y3 |
| Component 2: Financial products and incentives for coastal communities | Outcome 2.1 Insurance program(s) designed to underpin improved financial resilience to climate shock events for | Output 2.1.1 Insurance products to address critical climate risks to target communities, including index design, pay-out structure, underwriting and settlement data identification, and risk analytics | 2.1.1.1 | Data identification, collection, and validation (including hazard, exposure, and vulnerability data) for index design, underwriting, and settlement | Y1 |
| | | | 2.1.1.2 | Index design linking cyclone (wind) and extreme rainfall hazards to community impacts and financial need | Y1 |
| | | | 2.1.1.3 | Definition of pay-out structure(s) | Y1 |
| | | | 2.1.1.4 | Development of underwriting methodology and risk analytics | Y1 |

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| | three target communities, including developing options for incentivizing sustainable ecosystem management practices and other climate adaptation measures in risk-responsive pricing | | 2.1.1.5 | Finalization of product design(s) and drafting of indicative policy characteristics | Y2 |
| | | Output 2.1.2. Insurance program design for the deployment of the financial products in 3 target communities, including distribution, administration, and risk pooling options, risk metrics and data suitable for underwriting and settlement, pay-out management processes, and options developed for incentivizing ecosystem management practices and other climate adaptation measures in risk-responsive pricing | 2.1.2.1 | Identification of policyholder(s) | Y1 |
| | | | 2.1.2.2 | Identification of risk pooling / joint procurement options and policy administration options | Y1 |
| | | | 2.1.2.3 | Development of pay-out management processes and protocols (including settlement process and protocols for beneficiary database management) | Y1/Y2 |
| | | | 2.1.2.4 | Development of methodologies and guidelines to integrate incentives for climate adaptation measures (including ecosystem management and other risk reduction measures) into program design and ecosystems and risk reduction into risk-responsive pricing | Y2 |
| | | | 2.1.2.5 | Loss modelling to inform indicative pricing of program options | Y2/Y3 |
| | | | 2.1.2.6 | Final insurance program concept design and analytics for deployment in 3 target communities (final technical report) | Y3 |
| | Outcome 2.2. Premium financing identified and mobilization pursued | Output 2.2.1. Engagement and consultations to mobilize short-term premium support for “proof of concept” of insurance program(s) developed under 2.1.2, including extending coverage as an incentive for better ecosystem management practices | 2.2.1.1 | Development of premium financing strategy, including engagement strategy and scoping assessment, with identification of potential funders / sources of premium support, and quantification of program costs vs. community willingness to pay | Y1 |
| | | | 2.2.1.2 | Consultations on the potential to offer premium support as a reward for sustainable practices / as an integrated reward for sustainability certification | Y1 |
| | | | 2.2.1.3 | Government and donor consultations / structured interviews on community-level financial climate adaptation strategies and | Y1 |

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| | | | | premium subsidization, including willingness to pay assessment | |
| | | Output 2.2.2. Design of premium aggregation and management mechanisms | 2.2.2.1 | Funder workshop (donors and government) on potential blended finance arrangements / premium aggregation mechanism(s) | Y2 |
| | | | 2.2.2.2 | Engagement with institution(s) identified to aggregate and manage premium financing on behalf of subsidized beneficiaries | Y3 |
| | | Output 2.2.3 Strategy for sustainable, long-term ex ante financing of community climate risk | 2.2.3.1 | Desk research / analysis of the potential sources of funding for the long-term sustainability of the proposed insurance program | Y1 |
| | | | 2.2.3.2 | Community, government, and donor consultations / demand assessment and willingness to pay surveys related to long-term premium financing | Y3 |
| | | | 2.2.3.3 | Final program sustainability strategy | Y3 |
| | | | 2.2.3.4 | Final program sustainability and project close workshop | Y3 |
| Component 3: KM and M&E | Outcome 3.1 Effective project communications, knowledge management and adaptive management | Output 3.1.1 KM products disseminated to share lessons and scale up similar private sector work internationally on financial products for climate resilience | 3.1.1.1 | Develop KM products to disseminate and scale up the impact of the project at an international level | Y1/Y2/Y3 |
| | | Output 3.1.2 M&E reports, used for adaptive project management and successful project delivery | 3.1.2.1 | Inception workshop | Y1 |
| | | | 3.1.2.2 | Annual adaptive management meetings (x2) | Y1/Y2 |
| | | | 3.1.2.3 | Annual work plan and budget (x3) | Y1/Y2/Y3 |
| | | | 3.1.2.4 | Bi-annual project progress report (x6) | Y1/Y2/Y3 |
| | | | 3.1.2.5 | Quarterly financial reporting (x12) | Y1/Y2/Y3 |
| | | | 3.1.2.6 | Annual financial audit (x3) | Y1/Y2/Y3 |
| | | | 3.1.2.7 | Terminal evaluation | Y3 |

## Appendix 3: GEF Results Framework

| Project Outcome | Indicator | Definition | Method/ source | Who | Disaggregate | Base-line | YR1 | YR2 | YR3 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Objective: to improve resilience to the adverse impacts of climate change, including major shock events, in vulnerable coastal small-scale fisher communities in Fiji and PNG | | | | | | | | | | |
| | *GEF CCA Core Indicator 1*: Total number of direct beneficiaries | Direct beneficiaries are all individuals receiving targeted support from a given project. Targeted support is the intentional and direct assistance of a project to individuals or groups of individuals who are aware that they are receiving that support and/or who use the specific resources.<br><br>Not Cumulative | Count number of people who access insurance risk products, or participate in project-funded trainings | WTW<br>WWF Pacific | Gender | 0 | **1,250 male 1,250 female** | **1,250 male 1,250 female** | **1,250 male 1,250 female** | Total: 7,500<br>Male: 3,750<br>Female: 3,750 |
| | *GEF CCA Core Indicator 3: Area of land managed for climate resilience (ha)* | Area of land = seascape and landscape (rural)<br><br>Managed for climate resilience = ha of land incentivized for environmental stewardship due to insurance products; area covered by insurance products | Assess # ha linked to insurance product | WWF Pacific | Country (Fiji v. PNG) | 0 | | | **20,000** | |

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| | *GEF CCA Core Indicator 4*: Total number of people trained through the project | Trained = on climate risks and how insurance products can be a tool for resilience<br>Not Cumulative | Meeting and participant notes | WTW<br>WWF Pacific | Gender | 0 | **1,250 male 1,250 female** | **1,250 male 1,250 female** | **1,250 male 1,250 female** | Total: 7,500 Male: 3,750 Female: 3,750 |
| | | | | | # at line ministries | 0 | 10 male 10 female | 10 male 10 female | 10 male 10 female | |
| | | | | | # of community / association members | 0 | 1,238 male 1,238 female | 1,238 male 1,238 female | 1,238 male 1,238 female | |
| | | | | | # hydromet and disaster risk management agency staff | 0 | 2 male 2 female | 2 male 2 female | 2 male 2 female | |
| Component 1: Enabling environment for financial products to improve resilience for small-scale fisher communities in in Tavua District and Qoliqoli Cokovata in Fiji and Madang Province in PNG | | | | | | | | | | |
| 1.1. Climate risks, coverage priorities, and risk pooling options identified | *GEF CCA Indicator, Output 2.14*: No. climate risk and vulnerability assessments conducted for target sites | Climate risk and vulnerability assessment = risk analytics / pay-out structure (in insurance terms)h<br>Not cumulative | Count number of assessments completed through the project | WTW | Country:<br>Fiji<br>PNG | 0 | | **3 draft**<br>2 draft<br>1 draft | **3 final**<br>2 final<br>1 final | Incorporating activities under 1.1. and 2.1 |
| 1.2. Improved financial literacy to engage with financial products for climate | % of people with improved financial literacy to engage with project- | Improved financial literacy = increased awareness of project financial products and | Surveys before/after workshops, will utilize scorecard to determine | WWF-Pacific | Country, Community, Gender | 0 | | | **60%** | Feeds into Core Indicator 4 |

| | | | | | | | | | | |
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| resilience among coastal community members | supported financial products | how they can mitigate climate risks<br>Cumulative | 'improvement' in financial literacy | | | | | | | |
| 1.3 Markets developed in the target geographies to provide financial products for community level climate resilience and adaptation | Conditions in place for local insurers to underwrite project-developed financial products | Conditions in place =<br>1. underwriting methodology (how to price)<br>2. reinsurance / retrocession readiness (can transfer the risk)<br>Not cumulative | Assess conditions met / integrated into local insurance processes, documentation for underwriting methodology and retrocession readiness | WTW | | 0 | 0 | **2** draft underwriting methodologies **(**1 for wind 1 for rain) | **2** final underwriting methodology<br>**1** final retrocession readiness | Conditions are subject to integration into local insurer business processes |
| | Conditions in place for local insurers to distribute and administer project-developed financial products | Conditions in place =<br>1. enrollment process<br>2. loss calculation methodology (how to verify claims)<br>3. claims distribution / pay-out management process<br>4. regulatory approval<br>Administer and distribute = able to provide insurance policies to customers<br>Not cumulative | Assess conditions met, documentation for loss calculation methodology and enrolment and claims distribution / pay-out management processes (roll-out strategy) | WTW | | 0 | 0 | **12** draft documentation related to conditions (1 per condition per community) | **12** final conditions in place (1 per condition per community) | Conditions are subject to integration into local insurer business processes |

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| | # insurance markets ready to distribute the product of proposed insurance program | Insurance market = local insurer (locally regulated insurance company)<br>Ready to distribute = able to provide insurance policies to customers | Insurance markets readiness assessed by:<br>(1) engagement (introductory meeting)<br>(2) confirmed support expressed (letters of support)<br>(3) ready to distribute (regulatory approval secured) | WTW | | 0 | **3** markets engaged | **2** markets supportive | **1** market ready | At least 3 markets will be engaged, 2 are expected to be supportive. The project will work to ensure 1 market is ready to distribute the program. |
| Component 2: Financial products and incentives for small-scale fisher communities | | | | | | | | | | |
| 2.1 Insurance program(s) underpinning improved financial resilience to climate shock events for three target communities | No. financial instruments to enhance climate resilience developed<br>[GEF CCA Indicator 1.2.2] | Financial instruments = insurance product<br>Not cumulative | Count no. risk insurance products developed | WTW | Per community | | | **3 draft** | **3 final** | 1 financial instrument will be developed per community, which could be the same for each community |
| | Level of progress for insurance program design | Insurance program design, consisting of the following components:<br>- Distribution<br>- Administration | Score options and final versions of each insurance program component (listed under definition) | WTW | | 0 | **Total:1.5**<br>-risk pooling options (.5) | **Total: 3**<br>–dist. Final (.5) | **Total: 4**<br>-admin final (.5) | Finalization = options selected based on feedback from gov, communitie |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | - Risk Pooling options<br>- Pay-out management<br>Cumulative | .5 for options<br>.5 for final | | | | - Risk pooling final (.5)<br>-dist. Options (.5) | -admini. Options (.5)<br>-payout mgmt options (.5) | -payout mgmt final (.5) | s, banks, and developed |
| | No. community members benefitting from project-developed insurance products | Benefitting from = people who have accessed project-developed financial products | Calculated by # of insurance policies X average household size | WTW | Country<br>Gender | 0 | | | **No target** | Rolls into Core Indicator 1.<br>Dependent on premium (can't guarantee through project but will track, won't contribute to DO rating) |
| 2.2. Premium financing identified and mobilization pursued | Level of premium financing identified and mobilized<br><br>Cumulative | Premium financing = financing mobilized to subsidize insurance premium<br>Identified = parties expressing interest in funding risk financing products<br>Mobilized = financing committed and | 1 = not identified or mobilized<br>2= premium financers identified<br>3 = premium financers express support<br>4 = aggregation methods defined | | | 1 | **2** | **3** | **4** | We cannot guarantee premium financing is mobilized, therefor there is no number "5" as a target. |

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| | | secured for risk financing products | for identified financing<br>5 = premium financing mobilized | | | | | | | |
| Component 3: Knowledge Management and M&E | | | | | | | | | | |
| 3.1 Effective project communications, knowledge management and adaptive management | % M&E plan implemented in a timely manner | M&E plan implemented = delivery of reporting documents on time (Inception report, PPR, QFR, AWP&B, RF tracking, PCR), annual reflection workshop | Compare reporting documents submitted against grant agreement requirements | WTW | - | 0 | **100%** | **100%** | **100%** | |
| | % communications and KM plan implemented | Communications plan = see ProDoc Appendix 6: Knowledge Management and Communications, to be defined in annual work plan and budget | Knowledge and communications products developed and shared against KM & communications plan | WTW | - | 0 | **100%** | **100%** | **100%** | |

## Appendix 4: Stakeholder Engagement Plan

### 1. Introduction

Climate threats to coastal communities in the small island nations of Fiji and Papua New Guinea have increased and intensified in the past half a century, with major climate shock events including floods, coastal erosion, tropical cyclones, earthquakes, coral reef bleaching, ocean acidification and sea-level rise.[57] Climate-related natural catastrophe risk (such as from cyclones and extreme rainfall events), is only expected to intensify with global warming, whilst marine heatwaves (causing coral bleaching) and ocean acidification constitute an erosion of the ecosystem services on which coastal fishers rely.

The WWF GEF Project *Financial tools for small scale fishers in Melanesia* aims to mitigate the impacts that climate induced disasters have on communities in Melanesia, specifically in coastal communities in Northern Viti Levu, Northern Vanua Levu and Madang (PNG). The project is led by Willis Towers Watson (WTW), with WWF Pacific as a key partner. The objective of the project is to improve resilience to the adverse impacts of climate change, including major shock events, in vulnerable coastal small-scale communities in Fiji and PNG. This will be accomplished through three components within the project. The first component will work to create an enabling environment for financial products to improve resilience for coastal communities in Fiji and PNG. Component one will include a desktop risk assessment, community surveys, workshops, and trainings and tools to increase risk awareness and financial literacy in the communities. In Component 2, Willis Towers Watson will engage with local insurance markets and provide a financial product and program designs to provide community-level *ex ante* risk financing. An insurance premium financing strategy will be developed and pursued to formalize and strengthen risk sharing arrangements at the local, national, and international levels. Key potential sources of premium support for vulnerable communities—including those who may provide it as an incentive to undertake ecosystem management practices and other climate adaptation measures will be engaged. Component 3 includes plans for effective project communications, knowledge management and monitoring for the project, and adaptive management.

The Stakeholder Engagement Plan (SEP) is key to ensuring the success and sustainability of this project. The SEP builds on stakeholder consultations undertaken during the project design stage to identify key project stakeholders, their ongoing involvement in the project, and the roles and responsibilities for overseeing execution of this Plan.

### 2. Regulations and Requirements for Stakeholder Engagement

The PMU is responsible for ensuring compliance with the GEF and WWF standards on Stakeholder Engagement, specifically the WWF Standard on Stakeholder Engagement and the associated Procedures for Implementation of the Standard on Stakeholder Engagement. The WWF Standard on Stakeholder Engagement requires the Executing Agency, WTW, to engage all stakeholders— including project affected groups, women and men in local communities, and local CBOs and CSOs —throughout the life of the project; communicate significant changes to project stakeholders and consult on potential risks and impacts; establish a grievance redress mechanism and register and respond to grievances throughout project execution.

[57] (Beyer et al 2018, Hoegh-Guldberg et al 2018)

WWF-US, as the GEF Project Implementing Agency, is responsible for oversight. WTW, as the lead Executing Agency, is responsible for executing the Stakeholder Engagement Plan and overall compliance with the WWF Standard on Stakeholder Engagement.

As a recipient of finances from WWF-Australia, WWF offices in PNG and Fiji need to abide by specific WWF-AU safeguards policies.

The project should follow WWF and government restrictions to prevent the spread of the COVID-19 virus. During field visits and in-country travel, all attempts to practice social distancing will be made, as well as the use of personal protective equipment.

**3. Project Stakeholders**

WWF defines stakeholders as "persons or groups who are directly or indirectly affected by a project, as well as those who may have an interest in a project and/or the ability to influence its outcomes, either positively or negatively."

Project stakeholders include the following:

- Local Communities

  Local communities comprise the main beneficiaries of the project. The project will work with men and women, as well as local community groups, in target coastal communities whose livelihoods are threatened by climate-related natural disasters. In Fiji, target communities include communities in the Tavua District and Qoliqoli Cokovata (Districts of Macuata, Dreketi, Sasa and Mali). In PNG, the project will work with communities in the Madang Province. These communities will be engaged in the design of financial products, trained in financial literacy, and will directly benefit from co-developed financial products.

- Private Sector Stakeholders

  Private Sector Stakeholders include the Pacific Catastrophe Risk Insurance Company (PCRIC)--a public-private partnership--as well as potential donors, local insurance companies and international risk markets, and other financial sector actors. Local insurance companies and local banks will play a pivotal role in the design of financial products and actual roll-out and payment distribution. International market actors will be consulted on financial product and program design and retrocession options.

- Government of Fiji

  Ministries and Divisions within the government of Fiji that will be affected by, or involved in, this project include the Ministry of Environment, Ministry of Fisheries, National Disaster Management Office, Ministry of Economy (Fiji Climate Change Division), Ministry of iTaukei Affairs (Indigenous Peoples), iTaukei Affairs Board, and the various Provincial offices.

- Government of Papua New Guinea

  Authorities and Departments within the Government of Papua New Guinea that are recognized as project stakeholders include Conservation and Environment Protection Authority, National Fisheries Authority, PNG Forestry Authority, Provincial Governments (Madang province), Department of Finance, Local Level Governments and the Ward Planning Administration.

- Non-Governmental Organizations

The non-governmental organizations that have been identified as stakeholders in this project include the Wildlife Conservation Society, World Vision, The Nature Conservancy, Fiji Environmental Law Association (FELA), Conservation International, Fiji Locally Managed Marine Areas and Women in Fisheries Fiji, the Pacific Financial Inclusion Programme (PFIP), and Munich Climate Insurance Initiative (MCII). NGOs are contributing to the project baseline, including environmental management, and will be engaged to explore either potential opportunities related to providing insurance as a reward for sustainable practices/ environmental stewardship, or involvement in ecosystem-management payout schemes.

- Multilaterals and GEF Agencies

  Asian Development Bank (ADB), International Finance Corporation (IFC), International Union for Conservation of Nature (IUCN), United Nations Development Programme (UNDP), World Bank, and the Food and Agriculture Organization are implementing complementary initiatives and activities.

**4. Summary of Previous Stakeholder Engagement**

The project development team consulted a number of stakeholders throughout the project development process, including: target communities in Fiji and PNG, government ministries, private sector, and NGO's/CSO's. Full Consultation Reports are available, and summarized below:

- Fiji

Community representatives of **Tavua District** convened on the 12th October, 2020 to introduce the GEF project, undertake a baseline assessment process, and understand key needs for the Melanesian Fishers Project. A total of 46 (21 men and 25 women) community representatives participated. Community members highlighted the importance of marine resources as a source of income and food. Other sources of income include sugarcane harvesting, gold mining, and government jobs. Men and women engage in the fishing industry, with women often more engaged. The community has experienced climate-related natural disasters, including cyclones and flooding, as well other risks such as overfishing, mangrove harvesting, and logging (causing sedimentation). This has negatively impacted coral and mangrove ecosystems, as well as fishing gear (boats, nets). The community agreed that the initiative would be helpful, and requested a quick turnaround of insurance support for the community to continue fishing in the wake of climate-related disasters.

WWF Pacific also met with community representatives in the 4 districts of **Qoliqoli Cokovata** at the end of February 2021, and Nadogo district in March 2021. 17 representatives from all four districts attended the consultations in February and 21 participants attended the consultation in March, including community leaders, a District Womens Representative and members of the Community Fishing Ground Committee. Community members recognize the value of insurance (made especially relevant for communities recently impacted by Tropical Cyclone Yasa and Tropical Cyclone Ana), however they clearly indicated that they would need guidance with the process and with the concept of climate insurance. Feedback indicates that a majority of households dependent on fishing do not maintain any form of insurance and despite records of savings do not effectively save – indicating a strong need for financial literacy and planning.

A **Validation Workshop** was held on March 11th, 2021 by WWF Pacific, in partnership with Willis Towers Watson, in Suva. About 20 participants representing government departments, private sector, CSOs and IGOs were present at the national validation workshop. Overall, participants recommended the project

work closely with local insurance providers, provide clear information to communities on the insurance benefits, risks and costs and to ensure more remote indigenous communities are involved as well.

- PNG

Initial consultations were undertaken in **Madang** during PIF development. Consultations with the Ward Development Plan Coordinator, Community Facilitators, PNG World Vision's National Manager, and Outspan (Rainforest Alliance exporter of Cacao) PNG 2IC were undertaken to gage interest in the project. The partners that were consulted agreed that this project could prove to be a "useful asset" for Fiji and PNG. The Conservation Environment Protection Authority (CEPA) was also engaged, and provided a letter or support in November 2019. A critical finding during these initial consultations was the idea that the insurance should be targeted at the community level or higher. The consensus from these partners was that deeper community consultations would need to transpire to develop successful financial products that beneficiaries could understand.

In October and December of 2020 during project development, community consultations were conducted in Madang with the objective of understanding current community needs, impacts from climate change and interest in and understanding of, the project. Community members were interested in the project as a mechanism to help secure their livelihoods and protect food sources, and noted that they needed a better understanding of how the insurance products could work. Anthropogenic threats such as mangrove harvesting, destructive fishing practices and gravel extraction as well as climate threats such as volcanic eruptions, el niño events, and heavy sedimentation were determined to be disrupting ecosystem services and livelihoods in the communities. These threats were linked to the destruction of coral reefs, habitat and species loss, closure of fishing grounds, destruction of mangrove habitat and destruction of fishing gear. Climate threats were determined to be disruptive to ecosystem services and livelihoods.

From March 9$^{th}$- 12$^{th}$ 2021, WWF-Pacific staff engaged with local community members, and conducted in-depth consultations with three individuals that were focused on gender and projects being implemented by WWF-Pacific. The overall results from the data collected during these consultations indicate that WWF projects have significant positive impact on the communities and women in the project sites.

- Other Stakeholder Consultations

In March 2021, WTW engaged ADB representatives and consultants to coordinate with a complementary ADB project currently under development to design and implement coral reef insurance in Fiji. The benefits of collaboration were agreed—including related to coordinated public sector engagement and communications.

**5. Stakeholder Engagement Plan**

The purpose of the Stakeholder Engagement Plan is to ensure appropriate and consistent involvement of an inclusive range of diverse stakeholders, including women and men in target communities, in every stage of the project implementation, supporting effective communication and working relationships. The Project Management Unit (PMU) will ensure that the views and inputs of stakeholders are taken into consideration throughout project implementation.

| Stakeholder Type | Name | Frequency of Engagement/ Project Years | Engagement During Project Implementation |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **Private Sector:** | Pacific Catastrophe Risk Insurance Company (PCRIC)<br>Local insurance providers<br>International market actors | Y1, Y2, Y3 | Local insurance providers and international partners will be engaged early in project development to support the design of financial products, roll-out options and to determine the market's competitive pricing. Ultimately, it is envisioned that insurers will agree on, distribute and then administer policies related to these financial products. |
| | Potential Donors | Y1, Y2, Y3 | The project will hold structured interviews with potential donors to discuss their willingness to cover short-term insurance premiums, as well as inform a plan for long-term premium financing. A workshop will be held with potential donors and government to explore blended finance arrangements and premium aggregation going forward. |
| **Fiji Communities including indigenous peoples** | Tavua District, Qoliqoli Cokovata | Y1,Y2,Y3 | Local communities in Fiji and Papua New Guinea are the key beneficiaries of the project. Local communities will be invited to participate in surveys and consultations to identify climate hazards and discuss solutions. Second, they will be invited to workshops and trainings that promote financial literacy, provide awareness around risk financing options, and assess demand for these products within the communities. Community input on financial product and distribution options are vital for the success of the project. During the third year of the project, surveys will assess the community's willingness to pay for premiums and options for long-term financing.<br><br>The project will employ a gender-sensitive approach for all community consultations |
| **Papua New Guinea Communities including indigenous peoples** | Madang Province | Y1,Y2,Y3 | |
| **Papua New Guinea Government** | Conservation and Environment Protection Authority<br>National Fisheries Authority<br>PNG Forestry Authority<br>Provincial Governments (Madang province)<br>Department of Finance | Y1,Y2,Y3 | The Government of Fiji and Papua New Guinea will be heavily involved in the design of the financial products and roll-out plans. The project will conduct interviews with members of the government to discuss risk financing options, as well as discuss different mechanisms to aggregate premiums and distribute the product. |

| | | | |
|---|---|---|---|
| | Local Level Governments | | In addition, provincial level government will be included and informed of community level consultations. |
| | Ward Planning Administration | | |
| **Fiji Government** | Ministry of Environment and Waterways | | |
| | Ministry of Fisheries | | |
| | National Disaster Management Office | | |
| | Ministry of Economy | | |
| | Fiji Climate Change Division | | |
| | Ministry of iTaukei Affairs (Indigenous Peoples) | | |
| | various Provincial Governments | | |
| **NGOs** | Wildlife Conservation Society | Y1,Y2,Y3 | NGOs and multilateral organizations will be interviewed and consulted on the possibility of incorporating environmental management into the application of the insurance pay-outs. The organizations will be solicited for feedback and advice on methods of adherence and monitoring to ensure improved environmental management practices are being followed and bolstered by insurance pay-outs.<br><br>This project will collaborate with the local ADB consultant working to develop reef insurance in Fiji, exploring the critical integration of community-level financial resilience and ecosystem resilience and communicating the complementarities in a coordinated approach to engagement with the Government of Fiji |
| | World Vision | | |
| | The Nature Conservancy | | |
| | Fiji Environmental Law Association (FELA), | | |
| | Conservation International | | |
| | Fiji Locally Managed Marine Areas | | |
| | Women in Fisheries Fiji | | |
| **GEF Multilaterals:** | ADB | | |
| | World Bank | | |
| | UNDP | | |
| | Food and Agriculture Organization | | |
| | IUCN | | |
| | IFC | | |

*In addition to the above, all stakeholders will receive regular project updates via newsletters and other communication products supported by the project.

**6. Resources and Responsibilities**

A Project Manager will be recruited to the Project Management Unit, hosted by WTW. He/she will oversee implementation of the Stakeholder Engagement Plan at an overall project level. WTW is responsible for engaging insurance carriers, reinsurers, and global market actors.

In Fiji and Papua New Guinea, WWF Pacific will be responsible for overseeing stakeholder engagement with communities and local partners. Community facilitators already identified by local communities and working with local government and WWF will be trained on project topics (e.g. financial literacy, financial products). With the support of WWF and WTW they will conduct training and ensure proper stakeholder consultation with target communities. Budget has been provided for staff time, travel, and workshops to support this engagement.

The Project Steering Committee will hold responsibility for implementation of the project's Stakeholder Engagement Plan in compliance with WWF's Standard on Stakeholder Engagement.

**7. Grievances Mechanism**

A Project Steering Committee (PSC) will establish a process at the project inception workshop for resolving all grievances related to the project. The project grievance regress mechanism will be aligned with WWF Pacific grievance mechanisms as relevant. Instructions are provided on the WWF website (as below) with contact details and procedures. All grievances will be reviewed and responded to in writing within 10 working days of receipt. Both complaints and responses will be recorded into the project monitoring. If the claimant is not satisfied with the response, the grievance may be submitted directly to the WWF US GEF project agency.

A grievance can be filed with the Project Complaints Officer (PCO), a WWF staff member fully independent from the Project Team, who is responsible for the WWF Accountability and Grievance Mechanism and who can be reached at: Email: SafeguardsComplaint@wwfus.org.

Mailing address:

Project Complaints Officer Safeguards Complaints,
World Wildlife Fund
1250 24th Street NW
Washington, DC 20037

The PCO will respond within 10 business days of receipt, and claims will be filed and included in project monitoring.

**8. Monitoring and Reporting**

Progress against the Stakeholder Engagement Plan will be monitored and reported on throughout implementation. The following comprises the monitoring and reporting activities to be undertaken with respect to stakeholder engagement:

- The SEP will be periodically reviewed and updated as necessary at an annual Reflection Workshop. The review will ensure that the list of project stakeholders and methods of engagement remain appropriate.
- Activities related to stakeholder engagement will be documented and reported by the PMU on a half-yearly basis (as part of regular reporting). The project Results Framework and Annual Work Plan and Budget will track beneficiaries of the project and activities related to the Stakeholder Engagement Plan.
- Progress against Stakeholder Engagement will be evaluated in the project's terminal evaluation, as well as WWF GEF Agency annual supervision mission reports.
- The PSC will take part in monitoring the project's compliance to the Stakeholder Engagement Plan at least once a year.

Project progress and reports will be shared based on a Communication Plan.

## Appendix 5: Climate Risk Screening

See Climate Risk Screening, utilizing WWF-US's Climate Risk Screening Tool, **here.**

## Appendix 6: Knowledge Management and Communications

The project knowledge management and communications strategy will ensure lessons, methods and tools related to the project-developed financial products are developed, stored and appropriately disseminated. Knowledge management and communication is tracked and budgeted under Output 3.1.1.

**Monitoring and evaluation reports**

Reports will be developed to meet reporting requirements of the WWF GEF Agency. The PMU will develop a 6-monthly project progress report, with annual tracking of the Results Framework. An Adaptive Management meeting will take place at the end of Year 1 and Year 2, with key findings documented. A Reflection meeting will take place at project close to discuss the exit and sustainability strategy, as well as lessons learned. Finally, a terminal evaluation will be developed and made publicly available by the PMU and WWF GEF Agency. Lessons learned, best practices, and challenges and how they were overcome from the Project will be captured from WWF Pacific reports, trainings, surveys and from stakeholders at the annual Adaptive Management meeting. The knowledge developed will include lessons learned from the project, and will incorporate feedback and experiences from communities, including women's persepectives.

**Knowledge and Communication products**

In addition to meeting reporting requirements, the PMU will also develop knowledge and communication products that support technical outputs under the Project.

Year 1

- Climate risk and vulnerability assessments per community – Tavua, Macuata, Madang (Output 1.1.1, 2.1.1)
- Report on survey results per community, including synopsis of resource management, governance and socioeconomic information (Output 1.1.1)
- Training manual for community facilitators and community members to engage with project-developed financial products, with visuals and translated into local language (Output 1.2.1)

Year 2

- Insurance roll-out plan for local insurers, containing guidance on insurance policy administration options and mechanisms for distribution (Output 1.3.2)
- Insurance market and analytics packet will be produced to facilitate reinsurance/retrocession protection for participating market(s), local and international (Output 1.3.3)
- Long-term *ex ante* financing strategy (Output 2.2.3)

Year 3

- Financial products and program design for improved community climate resilience (Output 2.1.1) - documenting the final insurance program concept design and analytics

The PMU and WWF Pacific will also capture

**Communication product development and sharing**

The knowledge developed above will be packaged into formal, publicly available communications products as relevant, adhering to WTW, WWF and GEF brand guidelines.

Communication product development will be supported by Acclimatise, which was acquired by Willis Towers Watson (WTW) in November 2020. Acclimatise has expertise in developing strong communication products – including videos and infographics – to support sharing and awareness building of financial products. This support has been budged under 3.1.1.

A public-facing website, hosted by WTW, will be developed for the project to ensure both targeted stakeholders and interested parties has access knowledge and communication products developed under the project. As relevant, WTW will present on the progress, challenges and how they were overcome, best practices, and lessons learned at key events and workshops (TBD based on COVID 19).

Finally, communication and knowledge products will be shared directly with key stakeholders via methods defined in the Stakeholder Engagement Plan (see Appendix 4: Stakeholder Engagement Plan), including:

- Communities: Climate risk and vulnerability assessments and training manuals on financial products will be provided to communities in an accessible way. Products will be provided both as hard/soft copies and presented via workshops to ensure maximum engagement.
- Government of Fiji and Papua New Guinea: Communication products will be provided to both central and provincial levels of government.
- Partners developing Insurance products: UNDP, the Nature Conservancy (TNC), ADB, and others are developing community-focused insurance products to support reef resilience and livelihoods. The PMU will coordinate and share information as relevant to support up-scaling of project-developed financial products.

## Appendix 7: Overview Budget Table

| Expenditure Category | Detailed Description | Component (USDeq.) | | | | | | | | | | Responsible Entity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Component 1: Enabling environment for financial products to improve resilience for small-scale fisher communities in Fiji and PNG | | | Component 2: Financial products and incentives for coastal communities | | Sub-Total | Component 3: Knowledge Management and Monitoring and Evaluation | Total M&E | PMC | Total Project | (Executing Entity receiving funds from the GEF Agency)[1] |
| | | Outcome 1.1 Climate risks, coverage priorities, and risk pooling options identified | Outcome 1.2 Improved financial literacy to engage with financial products for climate resilience among vulnerable coastal community members | Outcome 1.3 Markets developed in the target geographies to offer financial products for community level climate resilience and adaptation | Outcome 2.1 Insurance programme(s) designed to underpin improved financial resilience to climate shock events for three target communities | Outcome 2.2. Premium financing identified and mobilization pursued | | Outcome 3.1 Effective project communications, knowledge management and adaptive management | | | | |
| **Grants/ Sub-grants** | WWF Pacific | $ 30,096.00 | $ 100,000.00 | $ - | $ 10,000.00 | $ 43,000.00 | $ 183,096.00 | $ 17,000.00 | $ 7,000.00 | $ 10,000.00 | $ 210,096.00 | Willis Towers Watson |
| **Total Sub-grants** | | **$ 30,096.00** | **$ 100,000.00** | **$ -** | **$ 10,000.00** | **$ 43,000.00** | **$ 183,096.00** | **$ 17,000.00** | **$ 7,000.00** | **$ 10,000.00** | **$ 210,096.00** | **Willis Towers Watson** |
| **Consultancy** | Terminal Evaluation | | | | | | | $ 25,000.00 | $ 25,000.00 | | $ 25,000.00 | Willis Towers Watson |
| **Total International Consultants** | | | | | | | | **$ 25,000.00** | **$ 25,000.00** | | **$ 25,000.00** | **Willis Towers Watson** |
| **Staff Costs** | Senior Director | $ 18,000.00 | $ 10,000.00 | $ 44,000.00 | $ 78,000.00 | $ 46,000.00 | $ 196,000.00 | $ 4,000.00 | $ - | $ - | $ 200,000.00 | Willis Towers Watson |
| **Staff Costs** | Disaster risk financing and insurance Subject-Matter Expert | $ 25,500.00 | $ 30,000.00 | $ 39,000.00 | $ 67,500.00 | $ 55,500.00 | $ 217,500.00 | $ 22,500.00 | $ - | $ - | $ 240,000.00 | Willis Towers Watson |
| **Staff Costs** | Risk data and modelling Technical Expert | $ 9,000.00 | $ 5,000.00 | $ 19,000.00 | $ 38,000.00 | $ 5,000.00 | $ 76,000.00 | $ 2,000.00 | $ - | $ - | $ 78,000.00 | Willis Towers Watson |
| **Staff Costs** | Risk financing and insurance Analyst | $ 11,250.00 | $ 12,000.00 | $ 23,250.00 | $ 30,750.00 | $ 24,750.00 | $ 102,000.00 | $ 7,500.00 | $ - | $ - | $ 109,500.00 | Willis Towers Watson |
| **Staff Costs** | Project Manager | | | | | | | $ 18,000.00 | $ 18,000.00 | $ 52,000.00 | $ 70,000.00 | Willis Towers Watson |
| **Total Staff Costs** | | **$ 63,750.00** | **$ 57,000.00** | **$ 125,250.00** | **$ 214,250.00** | **$ 131,250.00** | **$ 591,500.00** | **$ 54,000.00** | **$ 18,000.00** | **$ 52,000.00** | **$ 697,500.00** | **Willis Towers Watson** |
| **Trainings, Workshops, Meetings** | Initial private and public sector stakeholder consultations | $ 1,200.00 | $ - | $ - | $ - | $ - | $ 1,200.00 | $ - | $ - | | $ 1,200.00 | Willis Towers Watson |
| **Trainings, Workshops, Meetings** | Funder workshop (donors and government) on potential blended finance arrangements / premium aggregation mechanism(s) | $ - | $ - | $ - | $ - | $ 1,200.00 | $ 1,200.00 | $ - | $ - | | $ 1,200.00 | Willis Towers Watson |
| **Trainings, Workshops, Meetings** | Final programme sustainability and project close workshop | $ - | $ - | $ - | $ - | $ 1,200.00 | $ 1,200.00 | $ - | $ - | | $ 1,200.00 | Willis Towers Watson |
| **Total Trainings, Workshops, Meetings** | | **$ 1,200.00** | **$ -** | **$ -** | **$ -** | **$ 2,400.00** | **$ 3,600.00** | **$ -** | **$ -** | **$ -** | **$ 3,600.00** | **Willis Towers Watson** |
| **Travel** | Return flight (UK - Nadi) | $ 2,000.00 | $ - | $ 2,000.00 | $ - | $ 2,000.00 | $ 6,000.00 | $ - | $ - | | $ 6,000.00 | Willis Towers Watson |
| **Travel** | Return flight (USA - Nadi) | $ 2,000.00 | $ - | $ 2,000.00 | $ - | $ 2,000.00 | $ 6,000.00 | $ - | $ - | | $ 6,000.00 | Willis Towers Watson |
| **Travel** | Return flight (Fiji - PNG) | $ 1,000.00 | $ - | $ 1,000.00 | $ - | $ 1,000.00 | $ 3,000.00 | $ - | $ - | | $ 3,000.00 | Willis Towers Watson |
| **Travel** | Airport transfer (dep/arr) | $ 400.00 | $ - | $ 400.00 | $ - | $ 400.00 | $ 1,200.00 | $ - | $ - | | $ 1,200.00 | Willis Towers Watson |
| **Travel** | Other in-country costs (e.g. car rental, equipment, etc.) | $ 1,000.00 | $ - | $ 1,000.00 | $ - | $ 1,000.00 | $ 3,000.00 | $ - | $ - | | $ 3,000.00 | Willis Towers Watson |
| **Travel** | Per Diem Hotel | $ 3,600.00 | $ - | $ 6,900.00 | $ 1,500.00 | $ 11,100.00 | $ 23,100.00 | $ - | $ - | | $ 23,100.00 | Willis Towers Watson |
| **Travel** | Per Diem Meals | $ 1,800.00 | $ - | $ 3,450.00 | $ 750.00 | $ 5,550.00 | $ 11,550.00 | $ - | $ - | | $ 11,550.00 | Willis Towers Watson |
| **Total Travel** | | **$ 11,800.00** | **$ -** | **$ 16,750.00** | **$ 2,250.00** | **$ 23,050.00** | **$ 53,850.00** | **$ -** | **$ -** | **$ -** | **$ 53,850.00** | **Willis Towers Watson** |
| **Financial Management** | Financial Audit | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ 15,000.00 | $ 15,000.00 | Willis Towers Watson |
| **Total Operating Costs** | | **$ -** | **$ -** | **$ -** | **$ -** | **$ -** | **$ -** | **$ -** | **$ -** | **$ 15,000.00** | **$ 15,000.00** | **Willis Towers Watson** |
| **Grand Total** | | **$ 106,846.00** | **$ 157,000.00** | **$ 142,000.00** | **$ 226,500.00** | **$ 199,700.00** | **$ 832,046.00** | **$ 96,000.00** | **$ 50,000.00** | **$ 77,000.00** | **$ 1,005,046.00** | **Willis Towers Watson** |